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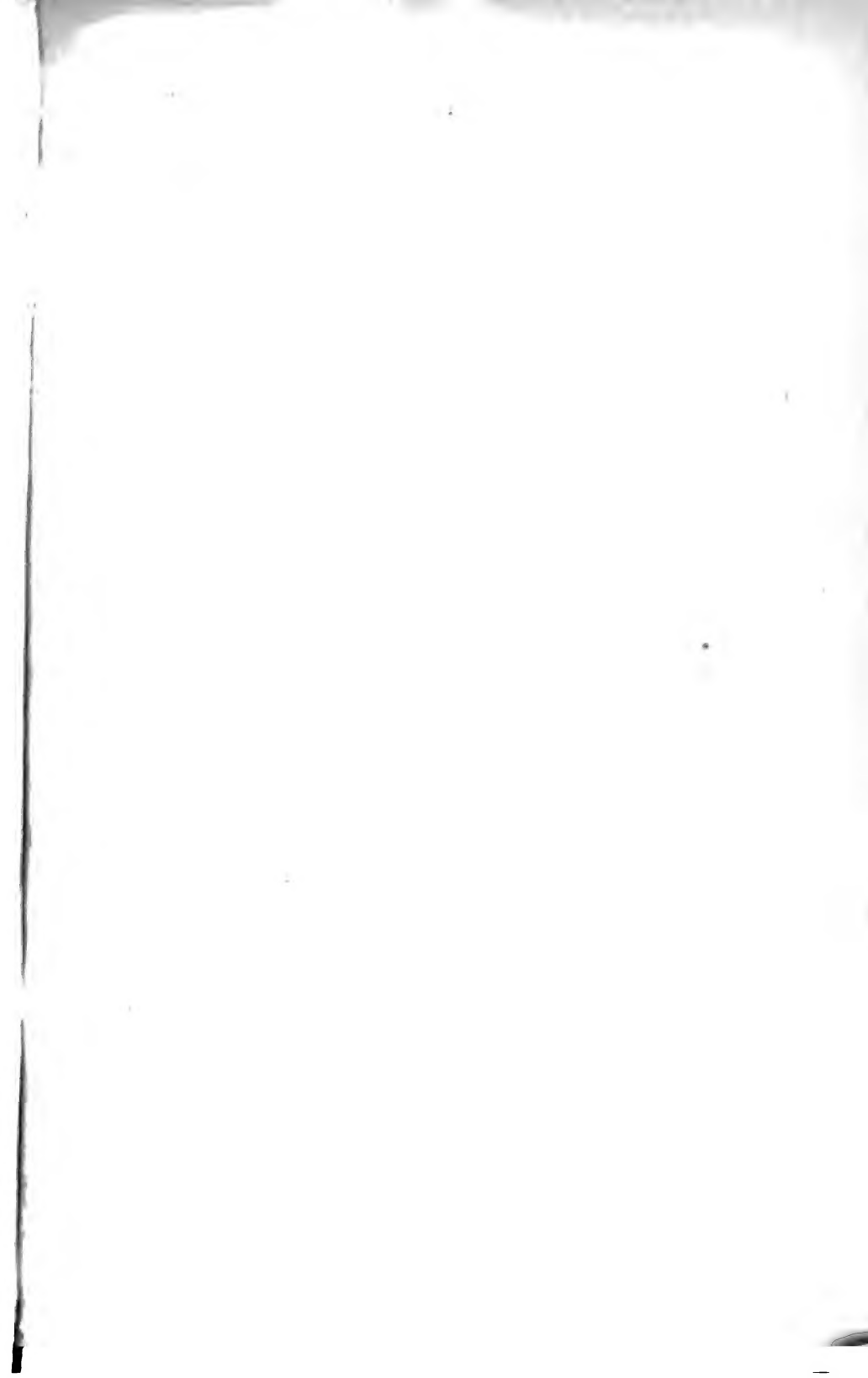
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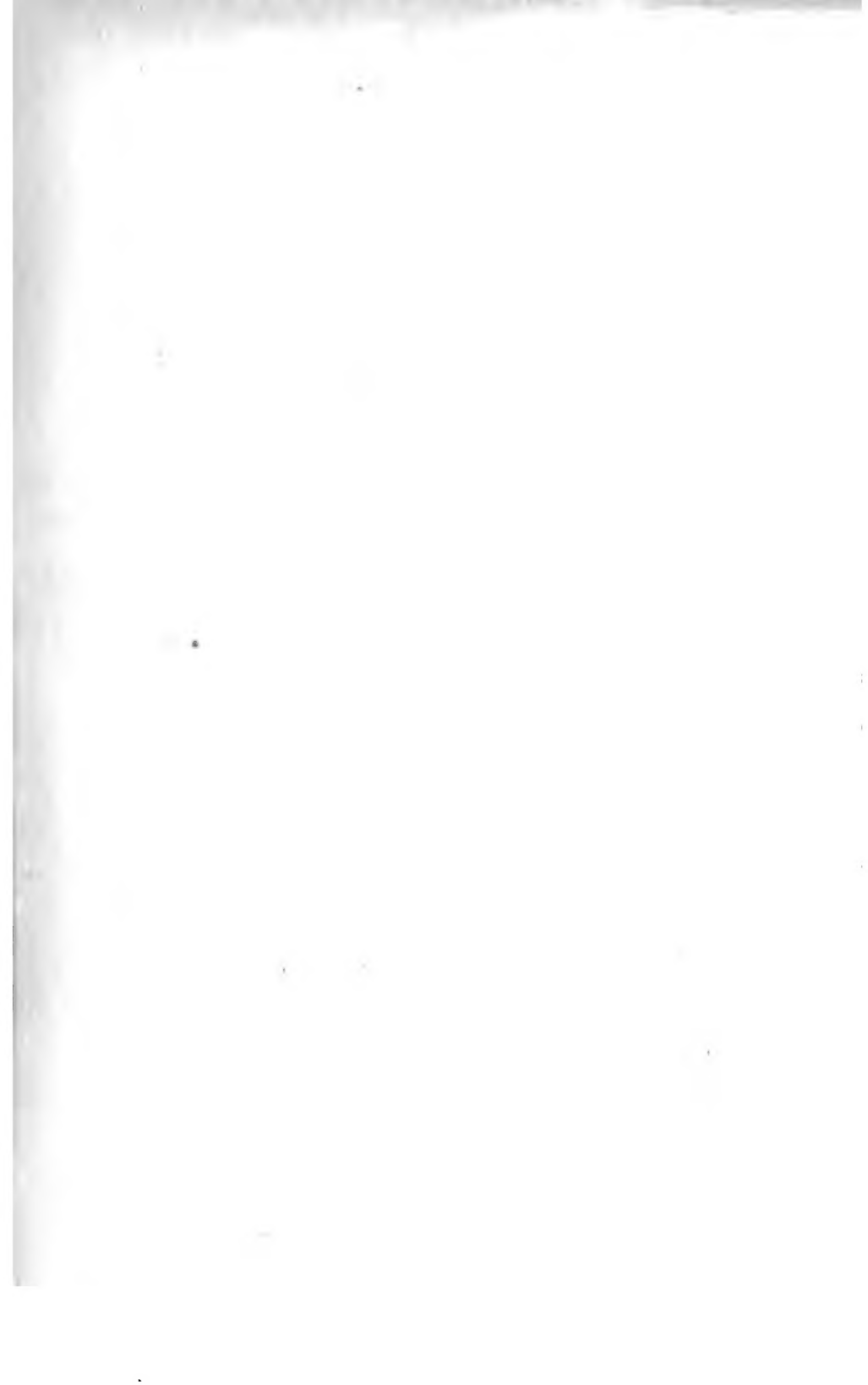
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QUARTERLY EPITOME

OF AMERICAN

PRACTICAL MEDICINE AND SURGERY;



BRAITHWAITE'S RETROSPECT;

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN
THE MEDICAL SCIENCES, ABSTRACTED FROM THE CURRENT MEDICAL JOURNALS
OF THE UNITED STATES AND CANADA.

PART XVII..... MARCH.....1884.



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PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

TYPHOID FEVER IN NEW YORK CITY.

By FRANK DELAFIELD, M. D., Prof. of Path. and Practical Medicine in the College of Physicians and Surgeons, New York.

In a paper read before the N. Y. Academy of Medicine and published in the *Medical Record*, November 17, 1883, Mr. Delafield says:—Typhoid fever is a disease which seems to be fairly endemic in New York, although it is much more prevalent in some years than in others. If we turn to the records of the Board of Health, we find that the disease, since 1854, was most prevalent in the years 1863, 1864, and 1865, the same years during which typhus fever existed as an epidemic in New York.

The time of year during which the disease prevails most, as seen from the table of cases reported at the Sanitary Bureau, is in the months of August, September and October.

In determining the age of the patients from hospital records, it must be remembered that the regular population of these hospitals consists of adults, children being admitted only in small numbers. Allowing for this circumstance, the relative frequency of the disease at different ages has been as follows :

5 to 10.....	'49	30 to 40.....	186	60 to 70.....	8
10 to 20.....	336	40 to 50.....	77	70.....	4
20 to 30.....	604	50 to 60.....	16		

Etiology.—The city of New York is not a favorable field for studying the etiology of this disease. A considerable number of the cases originate outside of the city, and are taken sick here.

Intestinal lesions.—The regular lesions of the solitary and agminated glands of the ileum were in most cases fairly developed. But in a considerable number of the fatal cases the intestinal lesion was inconsiderable; only a few swollen agminated glands with partial ulceration. Perforation of the intestine with peritonitis has not been of common occurrence. In the colon, enlargement and ulceration of the solitary glands were found only in five cases.

The mesenteric glands were more or less swollen in all the cases, generally corresponding to the degree of the intestinal lesion. In one case this had extended to a general peritonitis. In two cases these glands had suppurated and produced local peritonitis.

The spleen was soft in all the cases, usually enlarged, but sometimes of normal size or even small.

Croupous inflammation of the colon was present in one case.

General peritonitis, without perforation of the intestine, or suppuration of the mesenteric glands, was seen in one case.

The parotid glands have not been inflamed in any of the cases which I have seen.

The liver in many of the cases was enlarged, with some parenchymatous degeneration of the hepatic cells.

The kidneys in most of the cases were the seat of more or less severe parenchymatous nephritis; but these lesions of the kidney did not always produce changes in the urine during the life of the patient.

The heart, although sometimes soft and flabby with degeneration of the muscular fibres; was yet in many cases firm, strongly contracted, and with perfectly normal muscle.

The lungs have been diseased to some extent in many cases. Moderate degrees of bronchitis with congestion of the larger bronchi and an increased production of mucus were often seen.

Some degree of congestion and œdema was present in nearly all the lungs, involving regularly their most dependent portions.

In the brain and its membranes I have found no lesions, except old ones not belonging to the disease.

The voluntary muscles have presented their characteristic granular and waxy degeneration in a moderate number of the more severe cases; in many other cases no change in the muscles was found.

It is evident, therefore, that the anatomical type of the disease, as it has prevailed in New York during the past eight years, has not been a severe one. Neither the characteristic nor the accessory lesions have been more than fairly marked.

Symptoms.—To illustrate the character of the symptoms I have used the records of 102 cases, all occurring during the past five years. A larger number of cases could have been collated, but I have preferred to confine myself to this number of cases, all of which were well-marked examples of the disease.

Prodromata.—A distinct history of a prodromic period was obtained only in 18 cases. The duration of this period varied from four days to five weeks.

Incubation.—The character of the invasion was ascertained in 83 cases. In 37 cases the patients noticed a chill at the very commencement of the disease. The chill was always followed by a febrile movement, often accompanied with headache, sometimes with vomiting, sometimes with nose-bleed, and in 19 cases with diarrhœa.

In 25 cases the first symptom was diarrhœa, accompanied with fever, sometimes with headache, sometimes with nose-bleed. There were, therefore, altogether 44 cases in which diarrhœa was one of the first symptoms, and in 3 of these blood was mixed with the passages during the first few days.

In 15 cases headache and fever, sometimes with nose-bleed, marked with onset of the disease.

In 6 cases a marked bronchitis, with cough, expectoration, and physical signs, was the most prominent feature during the first week.

Altogether nose-bleed was mentioned by 14 of the patients. Pain in the right iliac fossa or abdomen was often complained of.

In the other cases it could not be ascertained exactly when or how the disease began.

Temperature.—Complete records of the temperature embracing the first days of the disease were not obtained in any cases. Many of the patients did not come under observation until the disease had existed for some time, in others the temperature was not taken until the disease became very manifest.

A study of all the temperature curves show that we must not expect too close a correspondence with the schematic curve.

During the first week the temperature regularly rises, but there is a great difference in the rapidity of the rise and the number of days required for it to reach its maximum. In hospital patients the transfer to the hospital seems often to produce a temporary rise of temperature. In some patients morning chills followed by afternoon fever may be repeated several times during the first week. There may be sudden falls of temperature for six, four, or twenty-four hours during the first week.

In the second week the temperature approaches the continuous type with moderate morning remissions; but sometimes the morning remissions are very marked. Sometimes the morning temperature is the highest; some-

times the temperature falls permanently to the normal by the fifteenth day; or after beginning to fall by morning remissions the temperature may go up again and continue to the end of the third, fourth, or fifth week; or, in fatal cases, the temperature may reach its highest point just before death, or fall to 101° or 100° F.

In the third week the temperature may continue as in the second, or it may fall more or less regularly with normal remissions.

In the fourth week the temperature usually falls by morning remissions, but this fall is often interrupted and irregular. The morning remissions may be followed by sweating. Or, after beginning to fall, the temperature will rise again and continue till the end of the fifth, sixth, seventh, or eighth week.

In the cases without relapses convalescence was most common at the end of the fourth week; it was not uncommon in the third week, and it was sometimes delayed till the end of the fifth, sixth, seventh, or eighth weeks. When there were relapses the disease might be still further prolonged.

The height of the temperature was usually in proportion to the disease, but to this rule there were many exceptions: mild cases with high temperatures, and severe cases with low temperatures. There was also a good deal of difference in the cases as to their ability to bear the temperature. Some patients would be much more affected by a temperature of 102° F. than others by a temperature of 105° F.

The pulse usually followed the curve of temperature, becoming more rapid as the temperature was higher. During the first week of the disease the pulse was strong, from 80 to 100. In the second and third weeks it was more rapid and feeble, often dicrotic. As a rule the pulse became more rapid as it was more feeble, but sometimes it was both feeble and slow. Generally speaking, a rapid pulse was an unfavorable symptom, but sometimes the pulse continued rapid while the temperature was falling and convalescence approaching.

The appearance of the patients was characteristic. A dull, apathetic expression, the skin of the face dusky-colored, the cheeks often flushed, the mind dull and sluggish—all these conditions were well marked.

The tongue was usually at first coated with a thick white fur, afterward dry and brown; sometimes it remained clean, but became gradually dry, glazed, and fissured.

Nose-bleed occurred in many of the cases, not only in the invasion of the disease, but later in its course. In only one case did it reach such a degree as to become alarming.

Headache and sleeplessness were most common in the prodromic period and during the first week of the disease.

Delirium of an active and well-marked type was present in forty-one cases; it marked a severe form of the disease. Lower degrees of delirium occurring especially at night, were much more common.

Complete unconsciousness was usually a fatal symptom, although apathy verging on stupor was seen in many of the cases which recovered.

Vomiting not only marked the invasion of the disease, but sometimes continued throughout its course, and was then a most annoying symptom, interfering with the administration of food and medicine.

Diarrhœa was present in 82 cases, and in 44 of these it began during the first days of the disease. In 11 cases, after beginning during the first days of the disease, it only lasted a few days and then stopped. In 51 cases it lasted through nearly the whole of the disease, and in 20 cases it only lasted for a few days in the second week.

Constipation throughout the whole course of the disease was observed in eighteen cases. It was almost the rule to have some degree of constipation during convalescence.

The eruption is recorded as being fairly marked in forty-four cases, but in only a few of these was it very abundant. It seemed to be more constant in the cases which have occurred during the last year. It was usually seen during the second week, sometimes appearing in successive crops, especially with the relapses.

Tympanitis to a greater or less degree was often present; it was most marked in the patients who were constipated.

Pain over the abdomen certainly existed in a number of the cases, but the records on this point were somewhat uncertain.

The urine contained albumen in twenty-three cases; it was never present in large amount. Casts were found in the same cases in small numbers. It contained blood in two cases.

Hemorrhage from the bowels occurred in twenty-three cases, and in six of these cases it proved fatal. In three cases there was moderate bleeding during the first weeks of the disease. In the other cases it occurred at the following periods: On the eighth day, one case; on the tenth day, one case; on the eleventh day, one case; on the twelfth day, one case: on the thirteenth day, three cases. In the second week, three cases; in the third week, two cases; in the fourth week, four cases; in the fifth week, one case; in the sixth week, one case; in the seventh week, one case. Throughout the disease, one case. Most of these hemorrhages were considerable in amount and repeated several times.

Hemorrhages in the skin were only seen in one case.

Complications.—A pustular eruption of the skin, the pustules situated all over the body and reaching the dimensions of small abscesses, was seen in three cases.

Suppurative inflammation of the middle ear, with discharge of pus, occurred in five cases.

Croupous pharyngitis existed in one case during the first week of the disease.

Bronchitis of a severe type, or broncho-pneumonia, existed in twenty-four cases, and in sixteen of these cases occurred early in the disease. In many other cases slight forms of bronchitis were present. When bronchitis occurred early in the disease its symptoms were sometimes so marked as to obscure those of the typhoid fever. Only three of the cases of bronchitis proved fatal.

Lobar pneumonia occurred in two cases, and both of these caused the death of the patient.

Repeated attacks of feeble heart-action, the radial pulse becoming imperceptible, were observed in one patient. She finally died in such an attack.

Peritonitis occurred in only four cases. In two of these it was due to perforation of an ulcer of the ileum, in one to perforation of the appendix vermiformis, and in one to inflammation of the mesenteric glands. In all the four cases the peritonitis was fatal.

Thrombosis of the femoral vein occurred in one case.

Dysentery was observed in five cases. It was developed during convalescence, in the fifth, sixth, and eighth weeks. In one of the cases it proved fatal, and was then found to be of the croupous variety.

The course of the disease.—In the cases which recovered, excluding the cases with relapses, the duration could be ascertained in sixty-one. In these convalescence commenced at the following periods: On the sixteenth day, one case; on the eighteenth day, four cases; at the end of the third week, six cases; at the end of the fourth week, nineteen cases; at the end of the fifth week, twelve cases; at the end of the sixth week, four cases; at the end of the seventh week, four cases; at the end of the eighth week, one case; at the end of the ninth week, nine cases; at the end of the tenth week, one case. In the cases which lasted longer than three weeks there were often periods of from twelve to twenty-four hours during which the temperature fell, and it seemed as if convalescence was commencing; but then the temperature rose again and the disease went on.

Relapses were observed only in seven cases, all of which recovered. The relapses occurred as follows: In the fourth week cessation of all the symptoms for ten days, then a relapse of fourteen days, then convalescence. In the fourth week cessation of all the symptoms for five days, then a relapse for ten days, then another cessation for fourteen days, then a second relapse for eight days, and then convalescence. In the fourth week cessation of the symptoms for seven days, then a relapse for two weeks. In the sixth week

a cessation of the symptoms for four days, then a relapse for seven days. In the sixth week a cessation for thirteen days, then a relapse for two weeks. In the sixth week a cessation for thirteen days, then a relapse for one week. In the tenth week a cessation for five days, then a relapse for one week. All of these cases were very seriously ill, and yet recover in spite of the long continuance of the disease.

The thirty-four fatal cases died at the following period: On the eighth day, two cases; on the tenth day, one case; on the eleventh day, one case; on the twelfth day, one case; on the thirteenth day, five cases; on the fourteenth day, one case; on the sixteenth day, two cases; on the seventeenth day, one case; on the eighteenth day, one case; on the nineteenth day, one case; at the end of three weeks, two cases; at the end of four weeks, four cases; at the end of five weeks, four cases; at the end of six weeks, five cases; at the end of ten weeks, one case.

The manner of death was as follows: In fifteen cases the patients seemed to die from the direct effect of the disease. In most of these cases the temperature was high and the pulse rapid and feeble. Death took place from the eighth day to the end of the sixth week. In three cases the immediate cause of death appeared to be severe broncho-pneumonia, death taking place on the eighth day, at the end of three weeks, and at the end of five weeks. In six cases death followed soon after large hemorrhages from the bowels; two cases on the thirteenth day, one on the fourteenth day, one on the thirty-second day, and two at the end of six weeks. Four cases died with acute general peritonitis. In three of these the peritonitis was due to perforation and proved fatal on the eleventh, thirteenth, and twenty-eighth days. In one case it was due to inflammation of the mesenteric glands, the patient dying at the end of six weeks.

One case died of dysentery at the end of ten weeks; one case died of syncope at the end of four weeks; one case died in collapse, with a temperature of 95° in the rectum after sponging with ice-water; one case died from rupture of the spleen at the end of four weeks; two cases died with lobar pneumonia, one on the eighth and one on the eleventh day.

Treatment.—A fair idea of the manner in which typhoid fever is treated in New York may be gathered from the routine of the different hospitals.

In the New York Hospital many patients are simply put on a milk diet, with the addition of a moderate amount of whiskey, and no other treatment is used. Peptonized milk instead of ordinary milk is thought to be of service. For high temperatures the body is sponged with equal parts of alcohol and water, and sometimes the fluid extract of eucalyptus is given in fifteen-minim doses. Quinine is not much used. Tympanites is treated with turpentine internally, and in stupes over the abdomen. Opium is given when there is hemorrhage from the bowels or excessive diarrhœa.

At St. Luke's Hospital the treatment is the same, except that quinine is sometimes employed to reduce the temperature, and ergotine hypodermically for intestinal hemorrhage. Either opium or chloral are used to control restlessness and sleeplessness.

At St. Francis' Hospital, if the cases are seen early in the disease, large doses of calomel are given, with the idea of aborting the disease. Quinine in large doses is given to most of the patients. The salicylate of soda or the benzoate of soda are given by some of the physicians throughout the disease. Cold water in any form, to reduce the temperature, is but very little used. A solution of the acetate of alumina is given to nearly all the patients to prevent or control the diarrhœa.

At St. Vincent's Hospital quinine in doses of two grains every two hours is given to control the temperature. Cold water is not employed. Opium is used with diarrhœa and intestinal hemorrhage.

At the Mount Sinai Hospital quinine in large doses is given to nearly all the patients. Cold water is not much used, but sometimes the patients are sponged off.

At Bellevue Hospital the treatment varies in the different divisions.

In one division the peptonized milk is much used. Quinine, in large doses, is given when the temperature reaches 103°, and sponging is also

sometimes used. Opium, the bromides, and cold to the head are used for the restlessness.

In another division quinine in moderate doses is given to most of the patients. For temperatures over 103° sponging with cold water or the Kibbee cot and sprinkling with cold water are used. Opium is given when needed.

In another division carbolic acid. gtt. j. and tincture iodine gtt. ij. every two hours are given early in the disease. Quinine in ten-grain doses every half hour is given to reduce the temperature. Sponging with cold water is sometimes used. Opium is employed for severe diarrhoea.

In another division occasional sponging, and whiskey and opium when required are the only treatment.

At the Roosevelt Hospital full bathing has been tried in many cases but now cold sponging is more used. Bismuth and pepsin are given to many of the patients.

In all the hospitals milk, either simple or peptonized, is the regular diet of the patients.

TRANSITORY APHASIA IN TYPHOID FEVER.

The following is a synopsis of an editorial in the *Boston Med. and Surg. Jour.*, Feb. 14, 1884:—A case of this sort occurring in Professor Bäumlér's clinic at Freiburg gave rise to an investigation of the literature of typhoid fever and the collection of twenty-seven other cases, the details of which in connection with nine more cases complicating other acute exanthemata—five in variola, two in measles, one in scarlet fever—and erysipelas is not devoid of interest.

Disturbances of speech in these cases belonged to the amnesic or ataxic aphasias, or exhibited a mixture of the two classes, and a very large proportion, twenty-five out of twenty-eight of them, occurred in children, as might be anticipated from the greater impressionability of the nervous system in children. The majority, eighteen, of the patients were between seven and thirteen years of age, five were between three and six years, one was fourteen, and the age of one child was not fixed. Only ten of the patients were females.

In most of the cases the typhoid fever was of a severe type, as shown by other nervous symptoms; consciousness, however, was not lost in any, or, at the most, only dimmed for a short time. Only one case ended fatally, the others recovering entirely. In most of these patients the disturbance of speech lasted from three to six weeks. In general the power of speech returned almost as suddenly as it was lost, with the exception of some little hesitation at the beginning in finding the proper expression.

Of the cases of transitory aphasia reported as attendant upon the acute exanthemata. All, except two of small-pox, ended in recovery.

Beyond a somewhat severe type of disease and more or less hyperpyrexia these cases exhibit no especial ætiological factor in common to account for the occurrence of the aphasia, and in the two cases followed by autopsies, one of typhoid and one of small-pox, with the exception of a moderate degree of œdema no macroscopic changes were detected in the brain.

DIABETES MELLITUS.

By WM. PEPPER, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, etc.

The following is from the *Medical Record* for January 5th, 1884:—The early symptoms which most frequently attract the attention of the patient are; First, increased frequency of urination, second, increasing debility and loss of flesh; and subsequently some aberration of appetite and thirst. The debility is much more than can be accounted for by the amount of loss of flesh, and is remarkable when taken in connection with the fact that the patient takes and apparently assimilates, a large quantity of nutritious food. With disturbance of thirst and appetite, there is, nearly always, dry mouth,

and sooner or later, derangement of digestion with constipation. With these symptoms sticky secretions and a harsh dry skin are usually associated. Cases occur in which the quantity of urine passed is not more than sixty or seventy ounces in the twenty-four hours, and in which the frequency of micturition and the quantity of urine voided does not attract the attention of the patients. They complain simply of loss of strength without apparent cause, and, with this, there is paleness and some loss of flesh. This saccharine diabetes illustrates the practical rule that, in all cases of chronic disease, whatever organ prominently attracts attention, examination of the urine for albumen and sugar is an essential part of the investigation. If this rule is neglected cases not only of latent Bright's disease, which is far more common than saccharine diabetes, are overlooked, but occasionally well marked cases of diabetes mellitus pass unrecognised. Sugar in the urine is found very frequently when the patient has complained of no symptom of saccharine diabetes.

While in most of the cases the symptoms of diabetes are present early, and attract the attention of the patient, in other cases they are comparatively obscure. In the latter class the symptom most frequently complained of is debility and exhaustion on the slightest exertion without apparent cause. With this debility there may be no loss of flesh.

The danger in diabetes is liability to the development of some inter-current fatal disease, a common termination being in phthisis, which in diabetes runs a rapid course.

Prognosis.—The probable result, and the probable effect of treatment are influenced by the age of the patient, the duration of the disease, and the amount of emaciation. These are more important than the quantity of sugar and the urine, and yet the patients do well under treatment; while, on the other hand, cases occur in which the sugar and urine are not abundant, but the patients fail to respond to treatment. A moderate quantity of urine and sugar only, may be associated with rapid emaciation and prostration. Prognosis, also will be affected by the youth of the patient, the duration of the disease, the amount of loss of flesh, the presence or absence of organic disease, particularly of the nervous system, liver, pancreas, and lungs, and, finally, the effect which change of diet produces upon the saccharine state of the urine.

Treatment.—In diabetes there is a great loss of glucose, it is useless to give such patients free sugar with the idea of replacing this waste. At first sight the theory is plausible, but it explodes on the first trial in practice, as the greater quantity of sugar or starch in any of their forms which the patients take the more sugar is excreted and their general condition becomes worse instead of better. Further, when the ingestion of sugar or starch is prevented nearly all the patients improve.

The exclusion of starch and sugar from the food should be made gradually and such exclusion will be followed by one of three results: *First*, The patient immediately gets wonderfully better; he sleeps better; urination is not so frequent, the quantity of urine diminishes from perhaps two hundred to three hundred ounces to eighty or seventy ounces, and sugar is present only as a mere trace. This is a most favorable effect.

Second. In other cases the quantity of urine may diminish but remains considerably above the normal, perhaps one hundred and twenty ounces, the specific gravity keeps up, and it still contains a large per centage of sugar. These patients will decline rapidly.

Third. In the third class of cases the patients can not take the restricted diet. They become disgusted with it, and are anxiously asking for a change, or make changes without permission; or, if they take the food, they do not digest it, but suffer from dyspepsia. In the latter class of cases further change in the diet is advisable before administering any drug, and I would put the patient on a diet of skimmed milk, pure and simple, beginning by confining him to bed, and employing a sufficient amount of friction to maintain the circulation of the extremities, and giving the milk in small quantities at short intervals; for example, a gill every two hours, or, where there is thirst, a gill every hour or hour and a half. The quantity should be gradually in-

creased until the patient takes half a pint every two or three hours. If the skimmed milk treatment of diabetes is carefully introduced with a gradual return to exercise as the amount of milk is increased, it is sometimes followed by wonderful results. Occasionally you will find, by experiment, that a patient does much better when allowed a small quantity of starch or sugar than when entirely deprived of them; he cannot assimilate his food without some sugar. In some cases also you will find that, although the quantity of sugar and the urine diminish under the restricted diet, still the patient grows worse, and it is only when you allow a mixed diet that he improves.

The governing principle is that starch and sugar should be excluded from the diet of diabetics; but, at the same time, no inflexible rule applying to every case can be made. Each case must be studied and treated according to its own indications. Some cases are entirely cured by restriction of diet alone; not a few diabetics have been cured by the use of koumiss.

Drugs are most useful where change of diet produces least effect upon the urine. Thousands of drugs have been recommended for the treatment of diabetes, and hundreds are still recommended, but none of these are applicable to all cases. Four indications must be met: (1.) Building up the general health; (2.) lessening the excessive flow of urine; (3.) relieving the distress resulting from craving appetite and thirst, restlessness and sleeplessness; and (4.) relieving the dyspepsia.

To lessen the flow of urine ergot, codeia, opium, iron, and bromide of potassium, in the order mentioned, rank as the most powerful and eligible drugs that have been recommended. Those which are also sedative, as codeia and opium, act directly upon the nervous system, and control restlessness, relieve insomnia, and relieve those distressing nervous symptoms connected with the derangement of the circulation in the extremities. They also relieve craving of the stomach, and lessen the quantity of urine passed, and the frequency of micturition. Opium has cured some cases; but is, I think, less desirable than codeia; iron is not incompatible with any of the drugs mentioned. Bromide of potassium has been vaunted as a cure for diabetes, but it occupies no such position. It should be used with caution and only where it is well received. If the use of any of the drugs mentioned is attended with derangement of digestion they had better be discontinued. I would much rather depend upon diet and the use of the mineral acids, bitter tonics, pepsin and pancreatin to improve primary digestion and assimilation, and let all other remedies go, than to use any of them and have the gastric digestion continue feeble or deranged.

ON THE TREATMENT OF DIABETES.

By Prof. DUJARDIN-BEAUMETZ, Physician to the Hospital St. Antoine, Paris, France.

The *Boston Medical and Surgical Journal*, for November 15 and 22, 1883, published a translation by Dr. E. P. Hurd, of Newburyport, Mass., from advance sheets. The author says: Before entering upon the main part of my subject there are two preliminary questions which must be decided: the pathogeny of diabetes, and the tests which determine the presence of sugar in the urine.

The conditions which, exaggerating physiological glycæmia, transform it into a persistent glycosuria are numerous; and according as they have been exclusively adopted to explain the mechanism of diabetes, a great many theories have been proposed.

From the exclusive point of view on which I am placed, that is, the standpoint of treatment, all these theories may be referred to three heads: the hepatico-intestinal or alimentary theory; the nervous theory; and, lastly, theory of nutritive disturbance.

Ought we to take sides with one or the other of these theories, and base exclusively on any one of them our therapeutic endeavors? By no means; and we ought instead to draw from them all the elements of our treatment.

The Professor then gives in detail the different methods to determine the presence of sugar in the urine, and says:

With this analytical process you can sufficiently estimate the effects of your treatment. You will also have a basis for your prognosis. You are aware that there are two kinds of diabetes. The one is the mild form, *diabetes benignus*, the diabetes of fat people, an affection which permits a person to live a good many years. The other is grave diabetes, the diabetes of lean people, which disturbs profoundly the nutrition of the individual, and determines in quite a short space of time cutaneous, pulmonary, or other complications which rapidly prove fatal.

There has been much discussion as to whether we ought to give the name diabetes to both these affections, some maintaining that the diabetes of the corpulent is nothing but a symptomatic glycosuria, and reserving the name diabetes to the more malignant disorder of lean people; others hold that the two affections are the same, but of different degrees of intensity.

When, after having made your patient follow scrupulously a rigorous alimentary regimen, you discover that the figure of sugar in the urine keeps at from thirty to fifty grammes per litre, be persuaded that your case is a grave one, and that your pharmaceutical measures, however judicious and appropriate, will not stay the progressive decadence of the organism and the death of your patient.

When, on the other hand, the quantity of sugar, owing to your alimentary hygiene, has fallen to nine or ten grammes a day, you have a case of diabetes of medium intensity. These are the patients who may live many years, but in whom there supervene, when the digestive functions become enfeebled, pulmonary complications, a peculiar comatose state, or it may be cerebral ramollissement.

In the third group are cases of diabetes of feeble intensity. Here we witness the triumph of alimentary hygiene, for it alone effects very rapidly and in a few days the disappearance of the glucose from the urine, however great the previous quantity. Nevertheless in these patients the sugar reappears whenever they commit errors in diet.

The determination of the quantity of sugar in urine, then is a matter of capital importance.

It is founded on the endeavor, as far as possible, to exclude from the food all substances capable of forming glucose. This glucose may be derived from sugar in the ingesta, or from starch which has undergone conversion in the alimentary canal. These glycogenous principles, then, should be suppressed. All this, however, though simple in theory, is difficult in practice. In order to suffice for the daily combustion of 310 grammes of carbon, if a man eats nothing but meat, he must consume two kilogrammes, so that a diabetic patient confined to a diet exclusively of animal food must be made to eat about four pounds a day! This enormous amount of meat is not without its inconveniences; by the quantity of nitrogenous material not utilized it augments waste-production, and provokes lithæmia; it moreover fatigues unduly the functions of certain portions of the digestive tube.

The régime of Cantani is difficult to follow in all its rigor; there are so few who can for a series of months subsist on meat and fat alone for Cantani aims to have this adipo-albuminous diet continued till the complete disappearance of sugar from the urine.

Hence the dietetic régime of Bouchardat is more generally adopted; the principal characteristics of this alimentary system consists in the substitution of gluten for starch, and in the employ of gluten-bread.

This question of bread is of great importance. Habituated from their infancy to this sort of aliment, bread is to some persons quite indispensable. So your efforts ought to be directed toward instituting a regimen which, while excluding starchy and saccharine elements, may satisfy in a certain measure the taste and appetite of your patients. Unhappily the mode of preparation of this kind of bread is not always what it should be. The dry gluten bread recommended by Bouchardat and the almond cakes and the bran cakes being generally hard and firm, the patient, whose gums are almost always affected with that diabetic gingivitis which loosens the teeth, is able

to eat but a small quantity, and this is the reason why I prefer bread crust or hard, stale bread, for the patient can eat but a little of it.

Pastries ought absolutely to be prohibited.

As for soups, I would advise you to keep clear of those made with gluten grains, as well as all rich broths.

As for green vegetables, I think that they may safely form a part of the dietary of diabetic patients, and in this opinion I am supported by Bouchardat. Water-cresses may be freely indulged at meals, also dandelion greens, artichokes, spinach, celery, cooked salads, etc. I know that green vegetables include notable quantities of saccharine matters, but they contain also potash, which is good for diabetic patients.

As for fruits, you should be very chary in their employ. The analyses of Mayet are very conclusive in this regard. Nevertheless melons, raspberries, gooseberries, and even oranges may be permitted under certain restrictions.

As for alcoholic beverages, there are certain ones which are permitted, and others which are forbidden. Champagne, malt beer, and ale are interdicted; the same may be said of the effervescent, non-intoxicating drinks, lemonade, ginger beer, etc. Bordeaux and Bourgogne wines may, however, be allowed, as well as coffee and tea without sugar, but you must avoid the deleterious effects of alcohol on the economy.

This subject of drinks is a very important one, for it is a pressing indication to diminish the excessive thirst which plagues diabetic patients, and many of them will keep demanding of you what they shall drink. I am much in the habit of ordering Vichy water, or water holding in solution from five to ten grammes of Seidlitz salts, or even mild bitter infusions, as of cinchona, hops, quassia, camomile, but it is well to urge the patient not to yield to his thirst, but to combat it as far as possible.

Apropos of these beverages I ought to mention the employment of glycerine in the treatment of diabetes. This triatomic alcohol gives good results in this disease, if we may trust to the experience of Schultz, Harnach, and Holz. In fact in the case of those patients who cannot tolerate the entire suppression of sugar in their drinks glycerine may sufficiently replace it, but it is necessary to protest against the large doses which have been recommended, for we have demonstrated (Audigé and myself) that glycerine may become toxic.

Therefore, to recapitulate, these are the rules on which you should found the alimentation of diabetic patients: total abstinence from sugar and from sweetened food; diminution as complete as possible of amylaceous substances; animal food and fresh herbs, care being taken to select such vegetables and such feculent articles as have the least quantity of saccharine matters; almost entire abstinence from bread, Bordeaux wine, bitter drinks; no distilled liquors nor sweetened beverages.

[The "*ménus*" of Bouchardat are omitted, as being more applicable to the gourmands of France than of this country. In brief, soups with cabbages and leeks, without bread or flour, are permitted, also rich broths with gluten-crackers. Meats of almost all kinds are allowed, with *hors d'œuvre*, as before given (*vide supra*); eggs, shell fish, salads, and *entremets* of gluten cakes, waffles of gluten flour or pure bran, jelly with rum, *kirsch*, or coffee without sugar, omelets with rum (not sweetened), and vanilla. He also specifies as allowable, among the *entremets*, artichokes, cabbage, with sauce, oil gravy containing gluten flour, or Parmesan cheese. Chicory, lettuce, and other herbaceous vegetables; asparagus, spinach, mushrooms, etc. If tea and coffee (which should never be sweetened) have no influence favoring the glycosuria they may be indulged in. Alcoholic liquors should be used with great moderation. Of wines (a quart a day for a man, a pint for a woman), choose the old red wines or the old white wines (Maderia, Chablis, Pouilly, Sauterne, Rhine, etc.). TRANS.]

The hygiene of the diabetic does not consist exclusively in attention to diet, it is necessary also by physical exercises, varied and multiple, to energize the combustion of hydro-carbonaceous matters. Gymnastics, fencing, forced marches, work in the garden, manual exercise, carpentry, all have their place and their use. Bouchardat has also insisted on the necessity of special

attention to the functions of the skin. In grave cases of diabetes the skin becomes dry and rugose, hence warm baths followed by massage are useful, and may be taken two or three times a week. With this hygienic treatment you can in mild cases cause the glycosuria absolutely to disappear. In diabetes of medium intensity you will considerably lower the amount of sugar, but you will have to conjoin certain medicines, and it is these medicaments which I am now going to consider. I propose to dwell more particularly on three of them which possess marked curative virtues. I refer to the alkalies, arsenic, and bromide of potassium.

Certain antiseptic remedies have been much vaunted these late years, such as salicylic acid and carbolic acid. The trials which I have made with these medicines on divers of my patients, both in hospital and private practice, have not given me such good results. To these medicaments we must add permanganate of potash, proposed some time ago by Sampson, of London, and which Masoin of Louvain, has recently brought into vogue. This permanganate of potash may have a good effect on diabetes of hepatic origin. Cantani has asserted the favorable action of lactic acid in the treatment of diabetes. As I have never advised the exclusive diet of the Italian physician, I have not used his pharmaceutical treatment, I cannot, then, give you any information on the employment of lactic acid. Struck with the action of certain narcotics, such as opium, belladonna, valerian, on the quantity of urine voided each day, it has occurred to physicians to reduce the polyuria of the diabetic by the use of opium, and it is on this principle that Willis, Rollo, and Tomasini have advised this medication. Diabetic patients, in fact, bear opiates well even in very large doses, and you may note in some of them a diminution of urine and in the quantity of sugar, but this result is obtained at the sacrifice of the digestive functions and of the appetite. This is an evil which attends the use of a great many pharmaceutical preparations, and is to be avoided. Valerian is more applicable to *diabetes insipidus* or polyuria than to saccharine diabetes and it may be administered as much as an ounce a day of the extract. Ergot of rye acts also against polyuria rather than against glycosuria. Iodine and the iodides have also been employed in the treatment of glycosuria, but it is an irritant medicament and fatiguing to the stomach.

The alkalies are the most precious pharmaceutical agents in the treatment of diabetes, although we have no very clear explanation of their therapeutic action.

Many alkaline preparations have been prescribed; some, as Rollo, Willis, Fothergill, and Wat, have counseled lime-water; others, as Dur, Neumann, Barlow, Adamkiewicz, prefer the ammoniacal salts; Bouchardat and Pavy have especially advised the carbonate of ammonia.

Potassa has also been exhibited, and Bouchardat, who cannot be too much cited when diabetes is under consideration, has proposed to substitute for the common salt in the ordinary dietary of the diabetic the potassic tartrate of soda, known as Rochelle salt. But the alkaline salt the most employed in the treatment of diabetes is the bicarbonate of soda, and here we must give the preference to the natural alkaline waters over the artificial waters, which fatigue the stomach, and cannot be borne for any great length of time. You will then order your diabetic patients to drink with their meals waters with but a moderate degree of alkalinity, say two or three grammes per litre, and there is nothing better than the Vals or Vichy waters.

Arsenic has these late years been much extolled in the treatment of glycosuria. Fowler's solution is the best form to choose; of this you need not fear to give large doses, even twelve to fifteen and twenty drops, according to the tolerance of the digestive tube.

The attention of the medical world has of late been called to the curative action of bromide of potassium in diabetes by a very interesting communication by Dr. Félizet to the Académie de Médecine.

This is a kind of treatment which was counseled by Beghie in 1866, but which being tried anew by other physicians had not given very favorable results. In the trials which I made in my service, and in the report which I presented to the Academy of Medicine on this subject, while recognizing the

fact that bromide of potassium in the dose of one to two grammes a day may cause glycosuria to disappear, just as Félizet had announced, I showed that the use of this medicine was not without inconveniences. It depresses considerably the forces, and this depression is sometimes so great that the patient is not able to leave his bed.

The thermal treatment of diabetes is of preponderating importance, and the results which may be derived from it are based on the physiological effects of alkalies and arsenical salts in glycosuria. It is, then, to the alkaline and arsenical spas that you should send your patients.

I will say a few words about the local treatment of diabetes by electricity, hydrotherapy, setons, and cauteries.

It was Semmola who, in 1861, first recommended the employment of constant currents upon the pneumogastric in the treatment of diabetes. Leidel and Prof. Leon Le Fort have obtained good results from galvanism.

Fleury has counseled hydrotherapy. I believe that it is necessary to be very careful in the use of this hygienic remedy. The same prudence should be exercised in the use of setons and cauteries. Butura and more recently Boutigny have noted cases of diabetes where complete disappearance of sugar from the urine followed the application of cauteries and setons in the region of the neck. But you should remember the danger of wounds (which do not readily heal) in the case of diabetic patients, and be extremely cautious about attempting treatment of this kind.

ACUTE RHEUMATISM.

The following appeared in the *Jour. Am. Med. Ass'n.*, Dec. 22, 1883.—Under this head the December number of the Proceedings of the Medical Society of the County of Kings has four distinct articles. Dr. Benj. Edson describes a case of the acute form treated by sodium salicylate grs. x every three hours, and relieved in two weeks time. It returned in a sub-acute form, and proved very obstinate, not being relieved by the sodium salicylate. Chorea developed, and the symptoms were finally subdued by R. ext. cimicifugæ fl. 3ss., potass. iodidi grs. v, four times a day.

Dr. H. A. Fairbairn reviews the results of treatment of acute rheumatism, taking from the English journals the reports of between four and five hundred cases treated by salicin and salicylate of sodium, all being recorded hospital cases. The conclusions drawn are that they (these drugs) make comfortable an otherwise painful and distressing ordeal; that the duration of the disease, as a rule, is not shortened by it, and the heart not protected; that it fails entirely in some cases. The dose varied from 3iss to 3ij in divided doses (of sodium salicylate) during the twenty-four hours. By some ʒj doses were given every two hours or hourly, until relief was afforded. Accidents having occurred during its administration, and sudden death having followed, the recognition of the presence of a powerful drug, and the consequent care necessary in its use, would seem to make this last dose a hazardous one. Dr. MacLagan prefers salicin in ʒi to ʒij doses hourly for six hours, then every two hours. In two cases given, improvement was marked in twenty-four hours, and the patients convalescent in four days. Salicin is preferred, as not producing depression, and therefore not prolonging convalescence. The drug must be given in large doses, so as to thoroughly saturate the system. The use of methyl salicylic acid, or oil of wintergreen, is reported in ten cases at St. Luke's Hospital, New York, as employed with good results in ʒ x to ʒ xv every two hours. Here Dr. Fairbairn makes a point of dwelling on the importance of looking to the activity of the eliminating organs when using such powerful drugs. The blister treatment, applied over the heart and about the joints, has sixty-four cases recorded to its credit as cutting short the fever, relieving pain, and having no heart complications. Dr. Fairbairn found relief given by large doses of the tincture of the chloride of iron, in etc and anæmic cases, where neither the alkaline nor salicylate treatment ps d to do good. Dr. Craig, of Jersey City, reports benefit in forty-ht hours, and a cure in five to six days, from the use of the syrup of

hydriodic acid in 3ij doses every two or three hours until relief, then 3j three times daily. Dr. Flint, of New York, allowed a number of cases of acute rheumatism to pursue their course without any treatment. They all recovered, the mean duration of the disease being a little under twenty-six days. Our most approved method of treatment gives about the same average.

Dr. J. E. Richardson writes enthusiastically in favor of the treatment of acute rheumatism by the salicyl compounds, giving a brief analysis of thirty cases so treated. He used the salicylate of sodium, eighty grains to the twenty-four hours. In several cases there was a decided cumulative effect; in but one, however, was this effect toxic. Local treatment by cotton wool and hot fomentations and the use of opiates, was not neglected. There was no hyperpyrexia in these cases, and in nearly fifty per cent. the temperature did not exceed 102° F. Subsidence of pyrexia occurred, on the average, 8.1 days. In fifteen cases it had become normal at the end of forty-eight hours. The average duration of joint pain was 4.5 days. The average time in which patients were kept under observation was 10.1 days, this being the time they were able to resume their employment. Heart complications occurred in one case; this was a case of endocarditis. He believes the salicyl treatment lessens the tendency to heart disease, probably through the reduction of temperature and the destruction of the rheumatic poison. Relapses took place in five cases while the patients were still under tolerably full doses of the drug. Dr. Richardson draws the following conclusions:

1. The more acute the case the more marked the relief afforded by the salicyl compounds.

2. If beneficial effects are to result from the use of the drug, they should be observed within forty-eight hours.

3. If the remedy is administered early in the disease, and in not too large doses, the tendency to heart disease is greatly diminished.

Dr. W. B. Chase, in considering the "Prophylaxis of Rheumatism," recognises first the direct transmission of the rheumatic diathesis; then its prevalence in the temperate zone and under the meteorological conditions of humidity with a low temperature. Consequently, his prophylaxis is introduced by directions of how best to avoid exposure, and the wearing of proper clothing, such as silks and woollens next to the skin. A proper care of the emunctories, as bathing for the skin to keep the perspiratory glands in good working order, and attention to the urinary secretion, is dwelt upon. Alcoholic drinks are assumed to be a prolific cause of rheumatism, but in what way is not clearly defined. The undue formation of lactic acid in acute rheumatism is recognised as the cause of the hyperacidity of the secretions, and Bartholow's three types are given, viz.:

- 1st. Active, sthenic cases, in persons of robust health, youth or early adult life. Treatment: Salicin and its compounds.

- 2d. Asthenic cases in the anæmic and debilitated, often the young. Treatment: Tr. ferri chloridi.

- 3d. Obese persons and beer drinkers, with flabby muscles and acid indigestion. Treatment: Alkalies.

Probably most persons of rheumatic antecedents will derive benefit, and thereby reduce the liabilities to its constitutional development, by more or less frequent use of natural alkaline and sulpho-alkaline waters.

MYXEDEMA.—A TYPICAL CASE.

At a meeting of the Clinical Society of London, on November 23d, Dr. DREWITT exhibited a case and described it. The patient was a woman, aged 45, who had been an out-patient at the West London Hospital during the last year. The disease was of twelve years' standing, dating from a time when the poor woman lost her husband and one of her children. At that time she was slightly built and active; but since then she had gradually become stout and heavy, slow and languid and feeble in moving, slow and deliberate and indistinct in her speech. She was afraid of going about alone, lest she should be run over; and she could hardly lift her feet high enough to get up-

stairs. She was always cold, even in summer, and never perspired. Her bowels were obstinately confined. There was dyspepsia, and she had partly lost the senses of taste and hearing. All the characteristics of the disease were present—the generally swollen look; the round and fat face; the sallow, translucent, wax-like skin; broad nose; thick, coarse, purple lips. On the cheeks were the same peculiar dusky reddish purple color, caused by dilated capillaries and veins. The eyelids were pendulous and transparent; the tongue, which was pale, swollen, smooth, and tooth-marked, was too large for the mouth, and more “cretinoid” than the intellect; the soft palate was also swollen and pale. The abdomen was greatly enlarged, as if from growth of fat; the swelling, in fact, was universal, but there was nowhere pitting on pressure. The skin of the hands and arms was rough and scaly, as in xeroderma. The hands were thick and swollen, and could no longer be clasped. The wedding-ring became imbedded in the swollen finger, and had been cut out by jeweller. Pulse 76, feeble. The heart-sounds were distant, feeble; there was no murmur. Temperature in axilla only 85°. Urine, specific gravity 1011; it contained no albumen nor sugar. Dr. Drewitt remarked that the spade-like clumsy hand had been especially noticed by Sir William Gull in his paper read before this Society, describing the disease for the first time, just ten years ago; but he thought that the most striking physical peculiarities were the pendulous eyelids, like alabaster in translucency, and the purple pouting lips. Tranquillity was also, in those few cases he had seen, a most marked characteristic. Though painfully conscious of their state, these patients were not irritable. As to the pathology, Dr. Ord had described the *post-mortem* appearance. The whole connective tissue of the body had been found swollen and jelly-like, and œdematous, with mucin. The swelling seemed sufficient to account for all the symptoms. The heart and arteries were obstructed by it, and hence the feeble blood-current, the deficient aëration of the blood, and the purple of the cheeks and lips. The tongue and palate were swollen with it, the intestine choked by it, the senses dulled, the functions of organs interfered with, and the patients died with all their tissues smothered by their own padding. In treatment of this patient he had found strychnia of the most value, and both muscular movement and speech had increased in briskness under it. In the appearance of the patient, however, there had been no improvement. As to the origin of the disease, it had been, perhaps, rightly ascribed to nerve-influence. Great anxiety or mental shock had occurred at the beginning of many cases. In Dr. Ord's first case as in the one now before the Society, it followed upon the fatal illness of a husband. In Dr. Cavafy's first case it followed a shock; in his second, a bad time at childbirth. Dr. Duckworth's second patient mentioned that it came on after her husband had kicked and ill-treated her. Dr. Semon's patient had fourteen children and some miscarriages in a “comparatively short time,” Great mental anxiety or distress profoundly depressed man's vitality. The secretions of gastric juice, saliva, bile were all influenced by emotion; mental shock was given as a cause of atrophy of the liver, and syncope might follow bad news; therefore, it would not be wonderful if it should be shown that the nutrition of the connective tissue of the body were altered in this way. Sir William Gull in his paper had alluded to the changes in the thyroid in true cretins. It would be interesting to know whether instances, either of atrophy or hypertrophy of the thyroid, had been observed in any of these cretinoid cases.—*Am. Jour. Med. Sciences*, Jan. 1884.

CONIUM IN MALARIAL DISEASES.

By RICHARD C. NEWTON, M.D., Assistant-Surg. U. S. Army.

In the *Medical Record* for January 19, 1884, this writer says in chronic malarial toxæmia especially other drugs than quinine are needed and are, and always have been extensively used. During the past nine months 269 cases of malarial disease have occurred among the officers and enlisted men in the garrison of which I have charge, beside a large number among the citizens

and the women and children in and near the post (Ft. Sill, Indian Territory). Not a single case of uncomplicated malarial fever has proved fatal, and I believe that it is in my good fortune to be in a position to recommend to the profession a drug of considerable value in the treatment of malarial poisoning, and, so far as I know, not generally used for this purpose. There seems to be no doubt that the drug has a powerful action on the ganglionic system of nerves. Its uncertainty of strength is frequently spoken of, and this has, no doubt, helped to bring the drug into discredit. It seems probable, however, that with the greatly improved pharmacy of late years, uniform and reliable preparations of conium, or its alkaloid, conia, can be always obtained.

During the summer and spring of 1883, I used the following prescription repeatedly: *R. Ext. conii. fld., ʒj, 3ij; ferri. perox, 3iij; spts. vini gallici, ʒiss; quin. sulph., 3ss; syr. simp., ʒiij; ol. menth. pip., 3ij. M. Sig. ʒi. q. four hours until two hours before the chill is expected, then q. two hours for two or three doses, then q. four hours.*

To children it has been given successfully by doubling the amount of syrup. This remedy is known as "Vaille's medicine," receiving its name from the late Dr. Vaille, of Springfield, Mass. It is not a perfect solution, and for this reason there may be a more palatable and more artistic way of administering conium, or any and all the drugs found to be essential in the formula given. The remedy acts as a mild laxative, diaphoretic and tonic. Its quieting and soothing effects differ widely from the disturbance often caused by quinine, and it naturally acts very beneficially after cinchonism has been produced. It is retained by the stomach in nearly the same proportion of cases as is quinine. Its habitual use is not a probable evil. Dilution with water may not impair the efficacy of the medicine, but it is generally recommended that water be not taken with it.

LITHÆMIA.

We clip the following from the editorial columns of the *Med. and Surg. Reporter*, Jan. 26, 1884:—Whatever may be the cause of the condition commonly designated "Lithæmia"—whether it be allied to gout and is really, as some maintain a "suppressed gout"—matters but a little to the practical physician, since we have the means at our command of relieving it. The etiology is of course interesting, and we trust that the labors of our clinicians and scientific workers will be crowned by an elucidation of this debatable question; but what the busy doctor more particularly requires are the points of diagnosis and treatment.

It is particularly essential that we should be prepared to recognise this affection, since it so often stimulates serious organic disease; and yet, if understood and properly treated, very simple measures will produce exceedingly happy results; for, says Dr. George H. Lyman, in the *Boston Med. and Surg. Jour.*, December 13, 1883:

"The disorder in question has no fixed set of symptoms. The subjective expression of the pathological condition may manifest itself in protean forms. Either the gastric, rheumatic, renal, hepatic, cerebral, or cardiac, or several of them combined, may seem to predominate in any particular case, yet each is dependent in great measure upon certain lithuric conditions, which being neglected, render any treatment unsatisfactory if not wholly useless. It is not necessary that nausea, constipation, or diarrhœa, headache, insomnia, or palpitations, myalgic pains, or urinary deposits, should all be present in any given case; the subject of it indeed is quite likely to express himself as being otherwise in good health and strength, vigorous in mind and body, and yet so tormented at times, and apparently without cause, with one or more of the functional nervous phenomena described, as to induce in him the fear of some fatal organic defect of heart or brain.

"Of the varied symptoms, none are more distressing than the two which are the more immediate subjects of this paper: a constant tinnitus aurium from which there is no escape during the waking hours, and indeed which

often interferes with the sleep—buzzing, ringing, clicking, or constant pulsation, for which no visible nor tangible cause can be discovered either in gastric disorder or the external and internal auditory apparatus—is not only a constant source of annoyance but of serious apprehension to its unfortunate possessor; or still more if either with or without this tinnitus the victim finds himself the subject of sudden attacks of vertigo, so severe and decided as to cause a staggering gait, possibly complete prostration, as an attack of epilepsy, the case assumes a gravity which startles and terrifies its subject into fear of impending death.

“Another will have renal complications dependent wholly upon some hepatic derangement of function, which sends him from one physician to another in the hope of relief to his fear of Bright’s disease, diabetes, or cystic calculus, while still another may be complicated solely with tormenting muscular or arthritic pains. And so on, one might recall instances of one or more of these with the addition of purely nervous complications, simulating to the fears of the patient almost every conceivable organic disease.”

Dr. Lyman seems well satisfied that this condition is “due to faulty assimilation, this in turn being produced by dietetic errors. Herein lies the principle of treatment. No definite, dogmatic dietetic laws can be laid down, each case must be a law unto itself, In most cases alkaline salts are indispensable.

One of the most interesting fields for the general practitioner to labor in, and one that is so rich in possibilities, because it is so little worked and so sure to make great returns, in the field of diet. What influence has it in causing disease, and what power has its regulation in restoring the functions to a healthy standard? That it has much more influence upon the health of mankind even than is to-day accredited to it, we have no doubt; and with the growing tendency to rank preventive ahead of curative science, no subject can be more worthy of careful consideration, than the preventive and curative influence of diet.

RECENT VIEWS RESPECTING THE DIAGNOSIS AND TREATMENT OF LITHÆMIA.

By JAMES J. PUTNAM, M.D., of Boston.

In a paper published in the *Boston Med. and Surg. Jour.*, Dec. 18, 1888, Dr. Putnam says:—It is well known that a tendency has been manifest of late among medical men in this country, as for a long time past in England, to diagnosticate as suppressed gout, or lithæmia, cases presenting a great variety of nervous symptoms, often anomalous and distressing in character, generally occurring in patients of gouty, but sometimes even in those of non-gouty, descent.

Two questions naturally suggest themselves for solution in this connection: First, what are the ascertained facts in the matter; second, what are the inferences which involve the least infraction of sound reasoning.

The conclusions which seem to me the best established are:

(1.) That various nervous symptoms, and symptom-groups (as well as certain affections of the skin and mucous membranes) may be due to disorders of nutrition of the body at large, and are best treated from that stand-point.

(2.) That, however, it has not been shown, nor rendered especially probable, that these symptoms are apt to be due to an excess of uric acid in the blood, except in so far as they occur in true gout.

(3.) That the effects of treatment in cases of so-called lithæmia are not such as to lend much support to the belief that it is a specific disease.

(4.) That there is abundant justification by analogy for the view that the impaired health found in the families of gouty persons need not itself be of a gouty nature.

(5.) The most, if not all, of the so-called lithæmic symptoms may and often do originate in a primary disorder of the nervous system (including true neurasthenia).

Having glanced briefly at the few advances which have been made in the pathology of true gout during the past few years, the author of the paper

says:—To conclude, I would express as my provisional opinion that the interests of medical progress would be best served if we avoided for the present the term lithæmia altogether, studying on the one hand, as if *de novo*, the causes which lead to a precipitation of urates in the urine; and observing, on the other, to see whether the nervous symptoms, the dyspepsia, etc., occurring in the descendants of gouty patients, are essentially different from the neurasthenias and dyspepsias in patients who cannot be suspected of the gouty taint. At the same time, whether their explanations are right or wrong, the extremely important service which such observers as Murchison, DaCosta, Draper, and others have done in showing that some close connection exists between disorders of general nutrition and a great variety of symptoms which had hitherto been studied too much in detail alone is worthy of the fullest recognition.

GELSEMIUM IN INTERMITTENT FEVER.

In the *St. Louis Courier of Medicine*, October, 1883, Dr. N. B. McKAY highly recommends it, and uses it with as much confidence as he ever used any of the preparations of bark.

I usually prepare the medicine for use by putting, say, ten drops into a teacup or tumbler, if for immediate use, and measuring in three or four teaspoonfuls of water to each drop, and given in teaspoonful doses as stated above. If to be kept for a few days, I put in camphor or peppermint water, which helps to keep it sweet; or, where there is much headache, I put in bromide of potassium, and that helps to keep it. Where parties live at a distance, I add glycerine in place of one-fifth or one-fourth of the water, and then it will keep indefinitely.

This medicine, prepared in this way, will rarely fail to quiet any nervous chill or rigor after it is fairly under way. In such cases I give it sometimes as often as every five minutes in severe cases, and it has never failed me.

It is cheap, easy to take, and very effectual.—*Med. and Surg. Reporter*, Nov. 24, 1883.

COLDS.

We make the following synopsis of an article published in the *Med. and Surg. Reporter*, Jan. 26, 1884, and originally from the *Lancet*:—Colds are chills, and chills are prolonged depressions of nerve-force, without the reaction which should occur immediately after the collapse. Nineteen persons out of twenty misuse this word "reaction." There are *three* stages of every strong impression made on a living organism. First, the attack—in this case the chill; second, the pause, like a dead-point, during which the organism is depressed—that is, lying under the stunning effect of the attack; and third, the reaction. The "reaction" cannot occur until after the dead-point, and the mistake commonly made is to speak of the stage of exhaustion or depression which follows any severe impression as the reaction, whereas it is precisely because no reaction occurs and the dead-point is prolonged that matters go amiss. The physiological, or perhaps we ought to say the pathological, process of a cold has been thus described:—When the surface of the body or the air-passages are chilled the mischievous impression is made, not on the skin itself or on the lining membrane of the air-passages, but upon the vast network of minute nerve-filaments which lies beneath these membranes, and connects the surfaces of the body—both external and internal—with the nerve-centres. These nerve-centres receive, through the multitudinous branches of telegraph-like afferent nerves converging to them, a shock which for the moment paralyzes them; and during this paralysis the blood vessels are contracted so that they carry less blood than usual, the red blood does not flow through them, and the surface looks pallid. This is the first effect of "chill." Presently comes the recovery from this state, or the "reaction" as it is called, when the first effects of the shock have passed away and the centres begin to revive. Now occurs the critical moment. If the shock has been great, and the recovery is slow or imperfect, as often happens in a depressed or what is called a "delicate" state of the organism, the heart, bounding in

its recovery, pumps its blood into unduly-yielding vessels, and dilates them, and local congestions may take place, while the absence of proper resistance excites the heart to tumultuous action, and the disturbances of fever and inflammation occur. It is a question of the balance in power between two parts of the nervous system, the general and the particular—the latter being the centre that regulates the calibre of the blood-vessels. If the reaction of the general nervous system be quick, there is a rush of blood to the surface vessels, the sweat-glands are thrown into activity, so that perspiration ensues. If, on the other hand, the muscular coats of the vessels are not properly contracted; they have lost their tone, the blood propelled to the surface simply dilates the vessels, so that there are the redness and heat of "fever" or pyrexia, and the skin remains dry.

What then is a cold? Clearly it is a disturbance of the balance between the several parts of the nervous system, brought about by the shock of a sudden or prolonged exposure to the depressing effect of "chill." Nature's provisions against the consequence of a "chill" and for the prevention of a "cold" are sneezing and shivering. A violent fit of sneezing often saves a chilled body. The nerve centres are aroused from their "collapse" by the commotion or explosive influence of the sneeze. If sneezing fails, nature will try a shiver, which acts mechanically in the same way. If this fails, the effects are likely to be very serious, and bad consequences may ensue. In case of chill, with threatened cold, sneezing may be produced by a pinch of snuff of any kind. This is how some of the vaunted "cures" of cold by snuff is brought about. Or brisk exercise may ward off the attack. The popular idea is that the circulation is restored by these remedies, but the true explanation is that the nervous system and centres are aroused.

SALICYLIC ACID.

The *Ephemeris* for November, 1883, gives the following concerning the administration of this drug: The apyretic effect of salicylic acid is one of the most remarkable and important therapeutic discoveries of the age, and its control over all such conditions as are generally met with in acute and subacute rheumatism is almost complete. Its applications, therefore, in medicine are very numerous and very important.

In its internal use the points most necessary to be borne in mind are the disturbing effects of very large doses, and the rapidity with which it is eliminated. It should, therefore, be given in full doses at first until the impression is made, and then in moderate or small doses frequently repeated.

It is best given in wafers or cachets, and it should not be packed into capsules. Two or three doses of fifteen to twenty grains with two or three hours' intervals will usually produce its characteristic beneficial effects. Then ten grains every two hours, with intervals gradually increasing to three and four hours, serves to keep up the effects with the smallest risk of such disturbance as will require it to be suspended when most needed.

Of late it has been more rarely used, the salicylate of sodium having taken its place with the same effect, and with some advantages.

It is a curious and very interesting and important circumstance, that full doses of salicylic acid or salicylates do not interfere with the digestive functions of the stomach, and yet a very small quantity will prevent the action of pepsin. At least this statement is made on what appears to be good authority.

An ordinary cold saturated solution contains somewhere about one part in three hundred; and such a solution is very convenient indeed, as a vehicle for solutions of alkaloids for hypodermic use. If a dram of the acid be added to a pint of water, and the mixture be well shaken, such a solution, with some undissolved acid at the bottom, will be the result. Then if this be used entire, or diluted with an equal volume of water, for making hypodermic solutions, such solutions will remain free from growths of all kinds for an indefinite length of time, and will not be more irritant than if made from water alone.

SULPHO-TARTATE OF QUININE GLYCYRRHIZATED WITH COFFEE.

Considering that for its intense bitter taste the sulphate of quinine, cannot be administered to many persons, and especially to children, Dr. C. Pavesi (*Gaz. Med. di Torino*) has masked the bitter taste with licorice root and toasted coffee, without in the least subtracting its precious therapeutical effects. The following is the method of preparation:

R. Sulphate of quinine, 1 part; tartaric acid, 1 part; powd. of licorice root, 5 parts; powd. toasted coffee, 25 parts; water, q. s.

The coffee and the licorice are mixed with sufficient hot water; the obtained liquid, limpid and brown, is evaporated to a syrupy consistency; then are added the sulphate of quinine and the tartaric acid, well mixed and dissolved; and again the whole is evaporated to dryness by slow heat so as not to alter the aroma of the coffee and the other immediate extractive principles. Being hygrometric, it is kept in ground bottles. Properties: The sulpho-tartrate of quinine glycyrrhized with coffee is a brownish powder resembling slightly coffee; it is of a bitter-sweet taste not disgusting, soluble in water. Tested with the proper re-agents the quinine is detected unaltered. It is to be administered in all the morbid affections, where quinine is indicated, especially to children. The syrup of sulpho-tartrate of quinine with licorice is prepared by dissolving in the decoction of coffee and licorice fifty parts of sugar and one part of sulphate of quinine and tartaric acid; then is evaporated by slow heat to the consistency of a thick syrup. It has a sweet taste, slightly bitter, very convenient for children. Every twenty-three grams of syrup contains about half a gram of sulphate of quinine, and as much tartaric acid.—*Medical Age*, Nov. 26, 1883.

SIMPLE INFLAMMATORY TONSILLITIS.

A modification of the guaiac treatment, which consists in the use, as a gargle, of a mixture known in the House Pharmacopoeia of the Philadelphia Polyclinic as the gargarysma Guaiaci Composita, is highly recommended in the treatment of this affection by Dr. J. Solis Cohen. Two fluid drachms each of the ammoniated tincture of guaiac and the compound tincture of cinchona are mixed with six fluidrachms of clarified honey, and shaken together until the sides of the containing vessel are well greased. A solution consisting of eighty grains of chlorate of potassium in sufficient water to make four fluidounces is then gradually added, the shaking being continued. Without due care in the preparation of this solution the resin will be precipitated. Gargle with this mixture freely and frequently, at intervals of one-half to three hours. In some cases a saline cathartic is first administered. Should any of the guaiac mixture be swallowed it is considered rather beneficial than otherwise, and in some cases it is advised to swallow some of it. Relief is usually experienced in a few hours.

For some time past Henry G. Houston, M. D., (*Atlantic Journal of Medicine*) has been using eucalyptus in cases of quinsy with very gratifying results. Dilute 3 j of the fluid extract with ʒj of warm water, and use as a gargle or spray every twenty minutes. The water must be as warm as the patient can bear it.

It has been his good fortune to see all the cases so treated recover speedily, without suppuration. No other remedy was used, except in one instance, when he prescribed quinine.

He suggests that, owing to its antiseptic properties and its special action on the respiratory tract, eucalyptus would be an excellent local application in diphtheria, either used as above or to medicate vapor for inhalation.—*Medical Age*, Nov. 26, 1883.

ADMINISTRATION OF QUININE.

The following summary gives the pith of notes on the administration of quinine contributed by Dr. David Young, of Rome, to the *London Practitioner*:

(1.) Never to give quinine in antipyretic doses in cases where the bowels are confined and the secretion of urine is scanty.

(2.) In cases where it is being administered and an increase of dose is desirable, this may be safely done if the skin, bowels, and kidneys maintain their normal functional activity.

(3.) In many cases of remittent and intermittent fevers the combination of the drug with chloride of ammonium or a salt of potash or soda is likely to be more easily tolerated, as well as more useful, than if it be administered in a pure form.

(4.) During the administration of quinine should a headache come on or increase in intensity the case requires the most careful attention. — *Boston Med. and Surg. Jour.*, Nov. 8, 1883.

THE LANCET AND TARTAR EMETIC.

DR. E. MICHENER, of Toughkenamon, Pa., writes to the *Med. and Surg. Reporter*:

"I owe you a Christmas cheer and many thanks for having *deseccrated* your last issue (December 22) with *Tartar Emetic* and the *Lancet*, which, if your *Æsculapian* worthies tell true, have slain ten thousand times more Philistines than ever Samson did with the jaw-bone of an ass. Will you please spare half a column to one of those old *murderers*, to confess *how* the deed was accomplished? I copy, verbatim, from a letter written and mailed to my friend, Dr. Hiram Corson, on the 18th instant, four days previous to your issue, a remarkable coincidence of language.

"John Mull, aged about 60, a healthy, industrious farmer, but who had become quite *intemperate*, after several days of extreme exposure to wet, cold and whiskey, returned home sick on the 25th of 8d month, 1829, and went to bed, where he lay, without medical attendance, and with little nursing. On the first of the ensuing month at midnight, I was called to see him. As I approached the house, his loud, stertorous breathing was quite audible in the public road. I found him profoundly comatose, the extremities cold, stiff, and pulseless; mouth and eyes set wide open; the respiration not more than five or six. I had, a year previous, treated an analogous case, and the result led me to adopt a similar course. While hastening the preparation of more general, warm, and stimulating appliances, I immediately placed the hand and arm in pretty warm water, with active bathing and friction, till it became more warm and supple, and then applied the lancet. A single drop of thick, pitchy black blood followed the blade. As the frictions were continued, there was another and another, at shorter intervals; each successive portion appearing more fluid and less pitchy, till it flowed a stream of blood. When it had reached *six* ounces there was a very obvious change in his condition. At *ten* he indistinctly answered questions, and at *twelve* he was quite cognizant, and the bleeding was stopped. I only state the practical facts, leaving others to form their own conclusions. Convalescence was speedy and complete. This brief narrative, with change of name, would apply equally well to the other case referred to."

CORONERS AND MEDICAL EXAMINERS IN CONNECTICUT.

GUSTAVUS ELIOT, A.M., M.D., of New Haven, writes to the *Jour. Amer. Med. Ass'n*, Nov., 1883:—

Perhaps nothing has occurred during the past year of more general interest to the medical profession in Connecticut than the enactment of a new law concerning coroners. The desirability of a change in the methods of conducting inquests had long been apparent.

The ancient law empowered "any justice of the peace" to cause to be summoned "a jury of twelve judicious men," "to enquire of the cause and manner" of death of any person who shall have come to a sudden or unnatural death, or should have been found dead, the manner of whose death was unknown. The verdict of this jury was required to be presented to some

justice of the peace, who in turn was required to return it to the next Superior court in the county. Small fees, none of them exceeding one dollar, were established, which were paid from the town treasury. Slight penalties were prescribed for neglect on the part of officers in serving warrants, as well as for failure on the part of those summoned as jurors, to appear and serve. Provision was made for enforcing the attendance of witnesses, and for taking testimony, in the same manner as in criminal prosecutions before justices of the peace.

The most striking feature of the new system is the marked tendency toward centralization. This is made apparent in the first place by the withdrawal of the authority of holding inquests from the numerous local officers elected by the voters of each town, and the placing of it in the hands of a few (eight) men who are appointed by the judges of the State. The fact that the appointments are made upon the recommendation of the State's attorneys, thus making the whole system, directly subordinate to the prosecuting office of the county, points in the same direction. Another striking feature of the system is the exceedingly insignificant position occupied by the Medical Examiner as contrasted with the unusual range of action granted to the Coroner. While the latter officer can be removed by the judge "for cause shown," the Examiners, on the other hand, hold office "at the pleasure of the Coroner,"—a strangely uncertain tenure of office. Even where an Examiner has undertaken an investigation the Coroner may at any moment interrupt the inquiry and take entire charge of it himself. If the Examiner finds reason to suspect criminality the Coroner still has the privilege, if he sees fit, of returning a certificate of death from natural causes, as if he were more competent than a physician to determine the cause of death in a doubtful case. Not even is the making of an autopsy ensured, as a definite prerogative, to the lawfully appointed Medical Examiner, but here again the Coroner may supersede him by calling upon some one else to do it.

The law went into practical operation about the first of July. Time will undoubtedly show its defects, and, if it has any, its advantages.

DISEASES OF THE NERVOUS SYSTEM.

WHAT IS MEANT BY NERVOUS PROSTRATION?

By ROBERTS BARTHOLOW, M. D., LL.D., Professor of Materia Medica and General Therapeutics, in the Jefferson Medical College of Philadelphia.

The following is a synopsis of a paper published in the *Proceedings of the Philadelphia County Medical Society*:—The popular conception of the condition now known as "nervous prostration" is a state of debility, in which nervous derangements predominate. A man actively engaged in business or in public life, presently finds himself unequal to his daily tasks; he suffers odd sensations in his head; his digestion is disordered; he is weak; wakefulness, mental depression, and a thousand and one new sensations of strange character and fearful portent, are superadded. The unfortunate subject of these ills now recoils from his work, gives himself up to the consideration of his symptoms, and relaxes his hold on the interests and occupations of his life. All the world declares that he has "nervous prostration," and this explanation satisfies. Physicians say "neurasthenia" or "hypochondria," according to their habits of mind or to their training. Sometimes this condition is called the "American Disease." Indeed, there is a general notion, widely prevalent, that neurasthenia is a peculiarly American malady. The late Dr. Beard was the apostle of this dispensation, and he not only was noisy and persistent in his advocacy of that view, but claimed, indeed, to have first clearly defined neurasthenia, and to have classified under this designation the numerous symptoms pertaining thereto. If we cannot admit Dr. Beard's claim in its entirety, if we experience repulsion at his tremendous, but unconscious ego-

tism, we are still compelled to acknowledge that his work in this connection is the most important that has appeared. He was peculiarly fitted to differentiate this malady by reason of the quickness and acuteness of his intellect, his power of analysis in its subtlest aspects, and his far-reaching, his omnivorous faculty for related facts.

The term *neurasthenia*, advocated by Beard, is by no means of recent origin. The corresponding French word, used in the same sense as we now employ it, has been a stock word of French neurological medicine for fifty years. Under the terms spinal irritation, hysteria, hypochondriasis, the nervous state, etc., symptoms of the same character as those now included in the word *neurasthenia* have been described. Besides the general state, similar derangements of functions of particular organs have been separately considered, as palpitation of the heart, headache, flatulence, impotence, etc. In the word *neurasthenia*—popularly, nervous prostration—the whole morbid complexus is included. The question I have to consider is whether this is a real, a substantive disorder. Are the notions now entertained about it founded on a true conception of that condition?

I need not enlarge on the importance of a correct understanding of a morbid state, which is supposed to be due to the conditions of modern, especially of American life. Without stopping now to question the soundness of the prevailing doctrine, I will place before you the clinical history of two cases, representatives of the two types of *neurasthenia*. These may be designated respectively as the *congestive* and the *anemic* varieties. The latter are greatly more numerous, but the former are not uncommon, as Beard admits.

To name this malady from the disturbance in one system seems to me an error, unless the definition is sufficiently elastic to include all the functions affected. *Neurasthenia* names one, only, of the parts involved. To entitle this the "American Disease," is a strange misnomer.

Dr. Bartholow denies that life is more exciting on this side of the Atlantic than on the other. The one prize of life is money, and to get possession of it is the supreme purpose, to the attainment of which every energy is put forth. Is it less so elsewhere? Who are the peoples that despise money, and make no effort to obtain it? Here life is less exciting, because our political condition is staple, and comparatively little exertion is required to secure a comfortable subsistence. I am speaking now of the mass of the population, and not of the few consumed by the ambition for political and social distinction, or led by a pitiless greed. It is the very ease and luxury of our American life that cause mischief. It is the indulgence in eating and drinking, the abuse of alcohol and tobacco, sexual excesses, sedentary habits, and too luxurious lives generally, that induce the state of the system called nervous exhaustion.

I come now to the most difficult part of my subject. I have to answer this important question: Why are the somatic derangements caused by the conditions referred to, in some cases accompanied by the mental and nervous symptoms which belong to *neurasthenia*? Why do subjects with indigestion and assimilative disorders, or with the results of dyspepsia and malaria, suffer from derangements of the mental and nervous functions, and not others? I might here take refuge behind an accepted generalization, and say that the presence or absence of the neurotic type of constitution explained the difference in the result. There is aptness in this explanation, but it is not entirely adequate. There is a mental condition of great importance, and unless we comprehend this, we fail to realize all the possibilities of the nervous side of these cases.

In the conduct of life every man who has a position to make or to maintain, exerts a certain moral force to hold himself up to his work. Some men are so happily constituted that they are quite unconscious of the effort and stand in front, serenely confident. Others are all the time laboring; they feel it and know it. At the present time nervous prostration is much feared; its symptomatology is a common subject of discussion; and hence, familiar with its character, a man who is arrested in his career by some of the ailments supposed to belong to it, his imagination readily supplies the rest. When a man begins the study of his bodily sensation, having a certain model in his

mind, he has little difficulty in filling out the details. Thus it is when the subject of neurasthenia pursues his introspection; he becomes conscious of numerous sensations, which, because now felt for the first time, are new. Under these circumstances, also, the seat of conscious impressions becomes more acutely perceptive. Suggestion adds its quota of symptoms.

To the indefinite and multiplying nervous symptom; developing thus subjectively, must be added the reflex. Headache, vertigo, *tinnitus aurium*, amaurosis, diplopia, hallucinations and illusions, defects of speech, paralysis, are reflex symptoms on the part of the brain; palpitation, intermittent pulse, angina pectoris, laryngismus stridulus, asthma, are amongst the reflexes of the respiratory organs and heart; neuralgia, anæsthesia, and other disorders of the sensory nerves, and local paralyses, affections of the motor nerves, included amongst the nerve reflexes, may all be dependent on reflex excitations proceeding from the stomach. Indeed, there is no symptom in Beard's catalogue of those belonging to neurasthenia that may not be due to merely reflex influences having their initial seat in the digestive apparatus. It follows that the term neurasthenia, or its common equivalent, nervous prostration, is either inadequate, or it expresses too much: inadequate if the complex of symptoms includes the functional disturbances of all the organs affected—expresses too much if the malady is a merely nervous one.

In reply to the question: "What is meant by nervous prostration?" I respond, "a disease usually functional, situated in one or more organs, during the course of which reflex disturbances of the brain occur, and numerous subjective sensations in all parts of the body are realized by the consciousness."

I deny that neurasthenia is a primary nervous affection, or that it is a substantive disease. I hold that it is symptomatic and secondary.

This conception fixed in the mind, the treatment of neurasthenia is successful or unsuccessful according to the measure of our skill in localizing the initial disturbance, and in addressing our remedies to that, as well as to the general state.

SOME POINTS CONCERNING SANGUIS BOVINUS EXSICCATUS (DESICCATED BLOOD).

By F. E. STEWART, M. D., Ph. G., of Philadelphia.

In a paper published in the *Med. and Surg. Reporter*, Jan. 26, 1884, Dr. Stewart says:—I see that the fifteenth edition of the *United States Dispensatory*, recently published, gives me credit for the introduction of sanguis bovinus exsiccatus (desiccated blood), as a method of administering iron. As that is only one of its uses, and by no means the principal one, I beg leave to call attention to the following brief summary of what I consider to be the true position of this valuable agent in therapeutics.

The article thus prepared contains all the elements of the blood, and in a form for easy assimilation; but, more than this, it contains potentially all that vast amount of energy required to raise blood from the plane of elements and of chemical compounds to that of animal life.

Indications for Use.—Desiccated blood has been used with benefit in wasting diseases; in various cachexia, such as scrofula, consumption, and syphilis; in anæmia and chlorosis; in atonic dyspepsia; after hemorrhages and exhaustive discharges; in the height of the fever process to supply the combustion of tissues incident thereto, and to forestall a prostrated condition endangering life from exhaustion; in convalescence from fevers; and as a "building up" measure in surgical cases before operations, and after operations to hasten the reparative process. It is indicated in all cases where it is desirable to give iron, but *more especially* whenever the problem is to give food.

If quickly dried, this product is odorless, and almost entirely devoid of unpleasant taste. It may be administered either by the mouth, or by the rectum; preferably, however, by the former method. When administered by the mouth, it may be prescribed in combination with glycerine, with glycerine and brandy, or simply in solution with water. In either case the

blood should be first dissolved in water. A very good formula, suggested to me by Dr. Andrew H. Smith, of New York, is the following:

R. Sang. bov. exsicc., 3vj; aquæ, fl. ʒiv. Misce ft. sol. Adde spta. vin. gal. et glycerinæ ana ana, ʒj. S.—Tablespoonful three or four times daily.

In fever cases, when the temperature is high, I am in the habit of giving a teaspoonful, or more, as the stomach will bear it, every hour, carefully watching the dejections to see that it is all assimilated. In some cases, however, it is not assimilated, and stains the dejections black. In such instances, the addition of pepsin will usually remove the difficulty. As a disguise to the taste, I have been in the habit of employing some of the essential oils, a few drops of which will answer the requirements.

With regard to the use of blood per rectum, I have found that in some cases it is readily absorbed, and in other cases absorption does not take place. The reason for this I have never been able to ascertain. Pepsin should always be added to the solution when difficulty of this kind is experienced.

A point or two with regard to making a solution of desiccated blood. When preparing an aqueous solution, *never pour the water on the scales; always pour the scales in the water.* This point cannot be too strongly insisted upon. Then stir with a glass rod or spatula until dissolved, taking care to prevent the agglomeration of the scales into a mass. Again, always use *cold* water in forming the solution. There is about as much sense in attempting to dissolve dry blood in hot water as to attempt the solution of an egg in the same medium. In either case the albumen coagulates and becomes hard.

For rectal use, the solution should be gently warmed before injecting, taking care not to raise it to a sufficient temperature to coagulate the albumen.

BELLADONNA POISONING RESULTING FROM THE APPLICATION OF A BELLADONNA PLASTER.

Dr. MARTIN J. FLEMING, in the *Medical Record* for January, 19, 1884, reports a case as follows: J. R., forty-three years of age, a well developed man of temperate habits, had such marked intellectual disturbance that his physician diagnosed insanity, and recommended that the patient be removed to a public institution for the insane. Dr. Fleming found him in a condition of great restlessness and excitement, moving about his room with a staggering and uncertain gait, complaining chiefly of vertigo and weakness. His pupils were dilated, his vision indistinct, and he seemed unable to recognise even any of the members of his own family. When he attempted to seat himself he appeared to miscalculate the distance and would fall to the floor in a sitting posture unless supported. He was delirious, and his delirium was of a mirthful character, unless his movements were checked or interfered with, when he became violent. He imagined, for the most part, that he was in his shop and guiding his machine. He was very thirsty, and could speak only in a loud whisper. There were some signs of a rash on the body, but it was possible that the eruption was due to the irritation produced by his flannel. His respirations were thirty per minute and his pulse one hundred and eight.

On the day previous he had worked during the forenoon, had retired at 8 P. M., feeling quite well except that he had some pain and stiffness in the back. He complained of dizziness about 9 P. M., and about an hour later he rose from his bed and tried to wind his watch with a table knife, and next proceeded to cut it to pieces. During the night his delirium and vertigo became more intense, and his restlessness, huskiness of voice, and thirst grew gradually worse up to 11 A. M. on the following day.

Dr. Fleming learned that on the preceding day the patient had rubbed his loins at about 4 P. M. with an irritating liniment, and at about 8 P. M. had applied a belladonna plaster, five by eight inches in size. He carefully removed this, found some spots of abraded skin which the patient's wife assured him were not present when the plaster was applied. Small doses of

opium were ordered at intervals of two hours. Six hours later the patient's condition was very much improved, and he was able to give an intelligent account of how he felt. On the following morning all the apparent physiological effects of the belladonna had nearly disappeared, except the dilatation of the pupils. The patient assured the doctor that he had no recollection whatever of anything that had occurred from the beginning of the active stage of delirium up to the time of the administration of the third dose of opium.

THE TREATMENT OF EPILEPSY.

By WILLIAM PEPPER, M.D., LL.D., Prof. of Clin. Med. Univ. of Pa.

This teacher, in the *Med. and Surg. Reporter* for Jan. 12, 1884, says:—In a hospital we see the most unfavorable cases of this disease, for the sufferers rarely come to us until they have had a variety of treatment outside, and until the physical and mental condition has become seriously impaired by the disease. Although an institution of this character is one of the worst places for the study of the therapeutics of epilepsy, there is no better place for the study of the symptomatology, pathology, and diagnosis of the disease. I want you in the very beginning of our consideration of these cases to disabuse your minds of the idea that epilepsy is an incurable affection. In many cases it is incurable, yet there are many cases which are very amenable to treatment.

In the majority of cases the disease shows itself in some form during childhood, or if the disease itself does not appear, the child will show a tendency to it. For instance, the child will have one or two convulsions when teething, or at the beginning of an attack of measles or scarlet fever, and after teething is over or these attacks of acute disease have passed away, the child will have no spontaneous convulsions for a number of years, and the parents will have entirely forgotten the circumstance, until the age of seven, eight or nine arriving, the child, without apparent cause, will again have a convulsion, and from that time be a confirmed epileptic. Such is very commonly the history. Still more usual is it for the occurrence of some accident to arouse this tendency to convulsion; for instance, a child will have a fall, striking its head, and after that convulsions will be developed. In another class the tendency is so great that the convulsions occur from the most trivial causes, as fatigue, excitement, indiscretion in diet, or other form of reflex irritation.

Among the predisposing causes, inheritance is a powerful one. When a child comes of a family of strongly marked nervous temperament, and if the child began at an early age to show a tendency to irregular nervous manifestations, the probability is that there is such a profound morbid tendency of the nervous system, that no effort will control or eradicate it. Another predisposing cause is long continued exhausting illness. This may excite a tendency to convulsions at any age. Where there has been no inherited tendency, and where the child has not shown a disposition to convulsions, these attacks after protracted disease are not of so unfavorable omen, as where they come on in consequence of a constitutional tendency.

I need not say to you that accidents in children often produce this tendency. Children so frequently meet with accidents, that it is exceedingly difficult to say whether the convulsions have resulted from a blow, or whether the child has an inherited tendency which is just showing itself. Still you will be pressed for an opinion by the parents. If the accident was followed by unconsciousness and paralysis or mental affection you will have no hesitation in expressing the opinion that some injury has been done, and according to the seriousness of the injury and its curable character will be your prognosis. More frequently, however, you will be forced to conclude that the shock to the nervous system has excited the convulsions. If the injury has been slight, the prognosis is bad; but if the injury has been severe, the prognosis is more favorable. If there is evidence of permanent injury to the brain, the prognosis is of course unfavorable.

In children with convulsions, where there is a history of an injury with perhaps some lesion of the head, you will often find it difficult to decide whether or not any operative interference should be adopted. Usually you will find that you cannot decide upon having the head trephined. Yet I am satisfied that we ought to trephine the head for epilepsy more frequently than we do. Wherever there is a lesion of the cranial walls, although there may be no depressed fracture, where there is possibly some lesion of the membranes, and where the convulsions cannot be controlled, my judgment would be strongly in favor of trephining, I have seen some most excellent results follow this treatment.

Another and extremely difficult question comes up in the treatment of young children, and that is the question of intellectual development and training. A child of five or six is attacked with epilepsy. Such children are often among the brightest and most intelligent, and frequently are even precocious in their intellectual development. Yet it is clear that if the brain becomes excited by study, too much reading, or violent play, the convulsions will become more severe and frequent. To decide how far we should interfere with intellectual work, and how far the advantages of such interference counterbalances its disadvantages, is one of the most difficult problems to solve. My own judgment is decidedly against allowing these children to study or go to school. If taught, they should be taught at home, and emulation, ambition, and excitement of every kind should be studiously avoided. Specious as are the arguments pressed upon you by the parents against this plan, the results of yielding are usually bad.

Epilepsy, even when taken at the earliest period, is not a disease which in my experience has been cured by drugs alone. When I have succeeded in eradicating this tendency, and the cases are not rare in which success has been attained, it has not been by drugs alone. It has been by the regulation of diet, regimen, and hygiene, and secondarily by drugs. But allowing the child to go to school, and when the convulsions become more frequent, increasing the dose of bromide of potassium, and when that loses its effect, changing to bromide of calcium, bromide of lithium, or hydro-bromic acid, can have only one ending—and that is the enfeeblement of the whole nature of the patient, mental, moral, and physical, and the settling upon him of a hopeless bromide habit, without eradicating the epilepsy. There are some few cases in which a radical cure can be effected by drugs. There is a large number of cases where with proper hygiene and the continued use of suitable remedies, the disease can be kept in check indefinitely. There is a still larger number of cases, and this may be said of almost all cases, in which if you depend upon drugs alone, and do not pay the first and closest attention to the regulation of every point of the daily life, you will find that the case goes from bad to worse, and that the effects of the drugs has been bad, without influencing the disease. There is an enormous amount of damage done by the way in which bromides are used in convulsive affections.

The child requires a certain amount of training, and should be encouraged to use its mind in certain ways, for this exerts a beneficial and tonic influence. As I have said, the stimulus of competition, as in schools, is always an injury. These children, therefore, require a totally different arrangement of their daily life from that of healthy children. It should be based upon the fact that they are suffering from nervous prostration as well as nervous irritation. In speaking thus I do not allude to those cases in which some source of reflex irritation has been allowed to continue and keep up the convulsions, but where, after the removal of all causes, the child continues to have convulsions. Such a child seems to me to be suffering from nervous prostration in a very real sense, and I think that the best results will be obtained by treating the child for that condition.

I should regulate the life of such a child in the following way:—Go to bed at seven o'clock, and lie in bed until eleven o'clock in the morning; take a walk, come in and study, dine; after dinner, play or walk again, then rest and retire at the hour mentioned. Sometimes this can be carried out; at other times the child is so restless that any attempt to enforce such rules will do more harm than good. Where the child can be restrained, I regard pro-

longed rest in bed as one of the most useful adjuncts to the treatment of juvenile epilepsy. I have seen remarkable results follow this line of treatment.

I shall allude to only one more point to-day, and it is one about which much has been said of late; that is the question of genital irritation, as provoking attacks of epilepsy. I think that too much attention and importance has been given to this point. I think that you will be doomed to disappointment, if you expect to have a great deal of good follow the circumcision of adherent and contracted prepuces, which is the most common expression of genital irritation. In the female, there are a few local causes of irritation of the genitals. I know that there are cases in which an adherent prepuce with irritation of the mucous membrane has excited the convulsion, and after the removal of this cause, no other convulsions have appeared. Far more commonly, it will be found that children who, with an adherent prepuce, get convulsions, are epileptics in whom that may be one of the exciting causes, and although this may be removed, it will leave behind the epileptic tendency, and convulsions will occur from some other cause. In some cases, after the operation of circumcision, complete relief has followed; but in a larger number of cases, the condition of the prepuce has been found to be only one of the elements of irritation.

The same thing is true of worms in the intestinal canal. This is a rare cause, and still more rarely is it the only cause of irritation. We should, of course, carefully search for these causes of external irritation, and remove them, and above all, as far more important, should we see to it that there shall be no condition of intestinal irritation.

THE TREATMENT OF MIGRAINE.

By WILLIAM A. HAMMOND, M. D., Surgeon-General U. S. Army (retired list); Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School.

In a paper published in the *New York Medical Journal*, Nov. 17, 1883, Dr. Hammond says:—Up to within a few years past the therapeutics of the disease in question consisted of a mass of empirical formulæ, constructed upon the shot-gun principle, and directed to the stomach, the liver, the nerves, etc., according to the peculiar views held by the concocter.

Now, through the investigations of Eulenburg, Du Bois-Raymond, and others, two distinct types of the disease have been differentiated: the angio-spastic and the angio-paralytic.

1. The angio-spastic is the result of a spasm of the blood-vessels from which a state of anæmia of the parts of the encephalon to which these vessels are distributed is produced. It is characterized, in addition to the pain, nausea and vomiting, noises in the ear, circles or flashes of light in the eyes, and mental and physical prostration, by certain oculo-pupillary and vasomotor disturbances, which are generally easy of recognition. These are as follows:

During the paroxysm it is sometimes observed that the pupil on the affected side is dilated, while the eyeball is apparently sunk deeper in its socket than in the normal condition. The face and ear of the side on which the pain exists are pale, and cold to the touch, and the temporal artery is contracted, so as to give, when compressed, the sensation of a tight cord. If the bulb of a thermometer be placed in the external auditory canal, it will be found that the temperature is about 0.5° F. below that of the unaffected side. Whatever tends to diminish the flow of blood to the painful region increases the intensity of the symptoms, while, on the other hand, whatever increases the quantity of intracranial blood lessens the pain and the severity of the other phenomena. Thus, if pressure be made on the common carotid of the side corresponding to that of the disease, the symptoms are increased in violence, while pressure on the opposite carotid, by causing a diversion of blood through the other artery, diminishes the suffering.

As the paroxysm passes off, and the pain becomes less, the pupil contracts, the vessels of the face become distended, the temperature rises a little above the normal standard, the conjunctiva is injected, the secretion of tears is

augmented, and the pulse is accelerated. At the same time there are generally profuse perspiration and an increase in the amount of urine excreted. Ophthalmoscopic examination of the fundus of the eye shows that the choroid is paler than it is in the natural condition, and that the retinal vessels are smaller than they are in health.

2. The other form, which is called paralytic from the fact that the coats of the arteries are relaxed, and hence the caliber of the vessels increased, presents phenomena in many respects the very opposite of those which are characteristic of the first-named variety. During the existence of the paroxysm the pupil is contracted, as is also the opening of the eyelids. The face and ear of the affected side are red, and feel hot, and there is an absolute increase of temperature. The thermometer, the bulb of which is inserted into the external meatus, shows an increase of from 0.2° to 0.5° F. over that of the sound side. The temporal artery is enlarged and tortuous, and beats with increased force; compression of the carotid on the side corresponding to that of the disease lessens the pain, and whatever tends to increase the amount of intra-cranial blood intensifies all the symptoms. The fundus of the eye is, as Möllendorf observed, of a bright scarlet color.

Sometimes these conditions alternate, one paroxysm being of the spasmodic variety, and another presenting all the phenomena of the paralytic type. Occasionally both may exist at the same time on the opposite sides. At other times the oculo-pupillary and vaso-motor symptoms are absent, the pain alone being present. In such cases experiment only can determine the nature of the existing seizure.

Such being the pathology of migraine, the principles of treatment are clear and specific. In general terms, the indications are, in the spasmodic form, to relax the spasm of the vessels and to augment the quantity of intra-cranial blood; in the paralytic form, the treatment should be directed to increasing the tone of the arterial coats, thus lessening the flow of blood to the brain.

In the angio-spastic type, galvanism is of great service in the treatment of the paroxysm. One pole should be applied over the sympathetic nerve in the neck and the other over the solar plexus, and the current from about fifteen cells allowed to pass for two or three minutes. Often a single *séance* will break up the seizure. There are, however, other means of still greater efficacy and availability.

I usually administer at first a hypodermic injection of about a quarter of a grain of morphine. Then I give, every fifteen minutes, a pill containing a drop of a one-per-cent. solution of nitro-glycerin, or a drop of the one-per-cent. solution on a lump of sugar. If the differential diagnosis has been correctly made, this plan will cut short nearly every paroxysm in which it is used, and in which there are no specific ætiological complications. If, for instance, the cause is malaria, a large dose of the sulphate of quinine should be given instead of the morphine. Half a drachm will not be too much in ordinary cases.

In the intervals between the paroxysms, nitro-glycerin, or glonoin, as it is often called, should be given steadily for several months, a drop of the one-per-cent. solution being taken three times a day. In addition, the bromide of sodium, or some other of the bromides, should be persistently administered during the same period. Their influence is antagonistic to all kinds of spasm, and hence they tend to prevent that condition in the vascular coats.

In the angio-paralytic form of migraine, galvanism, applied as in the form just considered, is often equally efficacious in cutting short a paroxysm. Cold to the nape of the neck is also useful, and compression of the carotid artery of the affected side with Dr. Corning's instrument sometimes acts like a charm. Internally, thirty or forty grains of guarana will often cut short a seizure, as will also ten grains of caffeine, or even strong coffee or tea.

Better still is a large dose—a hundred grains—of the bromide of sodium. This rarely fails to abort a paroxysm.

In the intervals between the paroxysms the treatment should consist of the bromides, ergot, and strychnine. In those cases in which the symptoms other than the pain are not so decided as to admit of an exact diagnosis being made—and they are not uncommon—the treatment must be experi-

mental. Often, however, indications for the therapeutics can be obtained by pressure being made on the carotid artery of the affected side. If the case be one of the spasmodic type, the pain will be increased by this procedure; if it is of the paralytic form, the pain will be diminished.

In both forms the stomach and bowels must be kept in good condition. Sometimes attacks of either kind are caused by undigested food in the stomach or intestines, and an emetic or a purgative aborts it at once.

NEUROTIC AFFECTIONS ACCOMPANYING JOINT LESIONS.

By GEORGE W. JACOBY, M. D., of New York.

From the *New York Medical Journal*, Jan. 5, 1884, we take the following: The history of the subject goes back as far as Hippocrates, by whom it is mentioned. John Hunter was the next to take any note of it, and it is with him that the sympathetic theory originated. Malgaigne (1826) and, within the last ten years, Weir Mitchell, Duchenne, Verneuil, Sir James Paget, and Charcot and his pupils, comprise the list of names that have cast light upon the subject.

The affections which most frequently follow joint disorders are paralysis and atrophy of the muscles, and hyperplasia of the subcutaneous connective tissues. More uncommon are anæsthesia, hyperæsthesia, analgesia, hyperalgesia, and neuralgias. Three groups of nerve functions are implicated—motility, sensation, and nutrition.

Symptoms.—After the joint lesion, there is a change in the appearance of the limb. The extensor muscles are generally the ones involved. There is a change in the electrical reaction of the muscles; their contractile power is diminished, and finally lost. There is no reaction of nerve degeneration, no reversal of the normal contraction formula. This is also most noticeable in the extensors. The paralysis may appear as early as twenty-four hours after the accident; it may also appear very late. The hypertrophy of subcutaneous connective tissue seems to stand in a direct ratio to the atrophy of muscular substance. The atrophy is ascending and progressive. Contracture is rare. The disorders of sensation are early symptoms, and the differential diagnosis between these affections and progressive muscular atrophy may become difficult.

The conclusions which I am entitled to draw from the notes of thirty cases are: 1. That in all cases, except those involving the ankle or wrist joint, the muscles affected were the extensors of the diseased articulation. 2. That, in those cases which involve the ankle or wrist joint, the affection is descending instead of ascending, and that the extensors are not affected to any greater extent than the other muscles. 3. That, in cases of arthritis of any of the joints of the fingers, the interossei muscles suffered first and most.

The pathogenesis of the affection is still a disputed one. The sympathetic of Hunter, the pressure theory of various writers, the theory of functional inertia, then that of Vulpian, which is reflex, and, finally, those of Decosse and Charcot, are all incapable of satisfactorily explaining all of the cases.

The treatment, in order to be successful, must be varied and adapted to each special case. The chief agents at our disposal are electricity, massage, mechanotherapeutics and hydrotherapeutics in the form of hot and cold douches. Massage, in very many cases, seems to deserve preference to the electrical currents. The effects producible by massage are:

1. The diffusion of any articular effusion; 2. The comminution of vegetation; 3. The loosening and destruction of adhesion; 4. Increase of circulation; 5. Stimulation of muscular fibres.

In fact, all the agents above mentioned seem to act similarly by stimulating the nutrition of the affected muscles, by increasing the flow of blood to the parts, and perhaps thus causing a reflex excitability of the motor tracts.

ETIOLOGY OF TABES DORSALIS.—[LOCOMOTOR ATAXY].

The following is a synopsis of an article which appeared in the *Am. Jour. Med. Sciences*, Jan., 1884:—In 1881, Prof. Erb published his first series of 100

cases of tabes dorsalis, showing the frequency of previous syphilis in this disease. In 88 of these cases there had been previous syphilis, in 12 there had been none. Since that date, Fournier, in his work on Locomotor Ataxia of Syphilitic Origin (1882), gives the percentage of cases in which there has been previous syphilis as 93; Vogt, a former opponent of syphilitic tabes, in his latest statistics, gives the percentage as 81.4. The *Berliner klinische Wochenschrift*, No. 32, of this year, contains a paper by Erb giving a second series of 100 cases of tabes dorsalis. Out of this series, 9 only of the cases had had no syphilis, while 91 had had previous syphilis. Of these 91 cases, 62 had undoubted secondary syphilis, 29 had primary sores, but no secondary symptoms were noticed. Of these 29 cases, 5 had true hard sores, 10 were treated with mercury and iodide of potassium, and in 14 the treatment and the nature of the sore are not noted. The tabes dorsalis manifested itself at the following periods after infection with syphilis:—13 cases occurred between the first and fifth years, 31 between the sixth and tenth, 25 between the eleventh and fifteenth, 15 between the sixteenth and twentieth, 5 between the twenty-first and twenty-fifth, 1 between the twenty-sixth and thirtieth, and in one case the period was unknown. Thus 69 of the 91 cases occurred during the first fifteen years after infection, 15 in the period between fifteen and twenty years, and 6 still later. As a check observation Professor Erb ascertained that of 1500 patients who attended his clinic, who were not tabetic, 77.25 per cent. had never had syphilis, and that 22.75 per cent. had been infected. Of these latter 10.25 had suffered from secondary symptoms, and 12.50 from chancres only. From these observations he concludes that syphilis is such an important factor in the etiology of tabes dorsalis, that scarcely any one who has not had syphilis or a chancre has a chance of becoming tabetic. As to the other factors in the etiology of tabes (viz., heredity, catching cold, fatigue, sexual excesses, and injury), he considers them of much less importance; of the 100 cases of the present series he gives in 36 cases syphilis as the only assignable cause, in 17 cases syphilis and cold, in 8 syphilis and fatigue, in 7 syphilis and excesses, in 2 syphilis and injury, in 15 syphilis, cold, and fatigue, in 4 syphilis, cold, and excesses, in 8 syphilis, fatigue, and excesses, in 1 syphilis, excesses, and injury as the assignable causes, and in 3 cases cold alone, in 2 cases fatigue alone, in 1 case excesses alone, and in 1 injury alone. Syphilis is thus the most frequent and important change of condition that favours the development of tabes, the other factors generally acting in company with syphilis.

While Professor Erb holds that syphilis is one of the most important, if not the most important cause of the occurrence of tabes, he does not consider to be proved that tabes is a specific disease, a late manifestation of syphilis, though he thinks it extremely probable.—*Med. Times and Gazette*, Sept. 1, 1883.

DISEASES OF THE ORGANS OF RESPIRATION.

ON THE PATHOLOGICAL AND PRACTICAL RELATIONS OF THE DOCTRINE OF THE BACILLUS TUBERCULOSIS.

By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College, New York, etc.

The following is taken from the *Medical News* for January 19, 1884:—The statement of the fact that a peculiar micro-organism, to which Koch gave the name bacillus tuberculosis, was found by him in tuberculous products, by no means expresses the length and breadth of the discovery. This fact, however, lies at the foundation of a new doctrine—a doctrine apparently in conflict with well-founded pathological truths, and of great practical importance.

Before considering its pathological and practical relations, let us inquire of what does this doctrine consist, and on what does its validity rest? Is the bacillus tuberculosis a veritable micro-organism?

The affirmative answer to this question must be based on the testimony of competent and trustworthy microscopists, and there is almost entire unanimity among these in the conclusion that the bacillus tuberculosis is a veritable micro-organism. Of this, positive proof is the reproduction of the organism by culture outside of the body.

Is the bacillus tuberculosis constantly found in morbid products, which, irrespective of its presence, are known to be tuberculous?

The affirmative answer to this question is sustained by a very general agreement among competent and trustworthy microscopists.

Is the bacillus tuberculosis found in morbid products which otherwise have no claim to be recognized as tuberculous?

So far as I know, an affirmative answer to this question is *not* sustained by the testimony of competent and trustworthy microscopists.

From these data it may logically be concluded that the bacillus tuberculosis is a peculiar parasitic micro-organism which is characteristic of tubercle. But the doctrine goes further.

Is the bacillus tuberculosis the causative agent in the development of tuberculous disease?

Assuming accuracy of the observation, Koch has given demonstrative proof that the bacillus, at least in the experiments on certain animals, is the causative agent in the development of tuberculous disease. The accuracy of Koch's experimental observations in this regard has not been disproved. Reasoning from analogy, and still assuming the correctness of the data, it is a logical conclusion that pulmonary phthisis, in the human subject, is caused by the presence of this parasitic organism.

This completes the doctrine of the bacillus tuberculosis. It follows therefrom that pulmonary phthisis is an infectious disease, using this term infectious in the sense in which it is at present used by most medical writers, namely, as denoting disease dependent on special causative agents, which, under favorable circumstances, are capable of multiplication indefinitely either within or outside of the body. The multiplication of the special causative agent in phthisis, takes place within the body. The disease is therefore communicable by means of the causative agent, the bacillus. The causative agent, thus, is a *contagium vivum*.

We are now to consider an apparent antagonism between the doctrine of the bacillus tuberculosis and certain facts derived from the clinical study of pulmonary phthisis. In reality, the antagonism is apparent only, not actual. The antagonism relates especially to the existence of a tuberculous diathesis, to the well-established operation of causative agencies other than a contagium, and to a lack of clinical evidence of communicability.

Pulmonary phthisis is eminently a diathetic disease. The diathesis, that is, the predisposition, is evidently in some persons innate. No one who has given any attention to the statistics of this disease, can doubt that heredity is involved in the causation. No fact in medicine is better established than that age, climate and hygienic conditions enter largely into the causation of pulmonary phthisis.

How are these facts to be reconciled with the doctrine which teaches that the efficient causative agent in the development of this disease is a contagium? And, as regards communicability, statistics have failed to prove that this disease is contagious. It is true that isolated instances seem to point to its communicability, but the analytical study of large collections of recorded cases seem to furnish evidence against, rather than for, contagion. How are these facts to be reconciled with the doctrine which teaches that phthisis is never developed without the presence of a *contagium vivum*?

The special morbid agents which give rise to infectious diseases require for the efficiency of their causative action certain special concurrent, coöperating conditions within the body. This requirement is greater in some than in other diseases, but the statement is probably applicable to a greater or less extent to all. The special agent is an essential factor; and another, not less essential, is the existence of the requisite concurrent, coöperating conditions. The nature of these conditions is unknown, but the fact of the necessity for their existence in the causation of diseases is as certain as if

they were known. We may embrace these conditions under the name predisposition. If the special causative agent be a micro-organism, it is customary to say that, like certain plants, it needs for its growth and multiplication certain peculiarities of soil. The term predisposition embraces these peculiarities.

The predisposition to pulmonary phthisis involves all causes exclusive of the special causative agent—the bacillus. The predisposition is the diathesis. It may be either congenital or acquired. It may exist and afterward disappear. It may probably be removed by measures employed for that end. If the predisposition be wanting, persons are insusceptible to the special cause of pulmonary phthisis. However large the number of bacilli inhaled, they are powerless. If the predisposition exist, phthisis will be developed, unless the inhalation of bacilli can be avoided; and this, in most parts of the world, is impossible, so long as the disease is as prevalent as it now is.

The views just presented are not peculiar in their application to tuberculous disease, and are well-known truths as applied to other infectious diseases.

Of the importance of the bacilli in diagnosis, I can speak from personal knowledge. For several months I have obtained the results of examinations of sputa for bacilli in a large proportion of the cases which have come under my observation in hospital and in private practice. Not claiming to be a microscopist, it is proper to state that these examinations have been made either by my colleague, Prof. William H. Welch, or by my clinical assistant, Dr. William H. Flint, or by Dr. H. M. Biggs, Senior Assistant Physician of the Third Medical Division of Bellevue Hospital. The results taken in connection with the histories, the symptoms, and the physical signs, have satisfied me that the bacilli in the sputa may be relied upon as proof of the existence of tuberculous disease. There is abundant, competent testimony to the correctness of this statement. I am led to believe that, if repeated examinations, made with sufficient care, show the presence of the parasite, the diagnosis of phthisis is positive, and, on the other hand, if, on repeated and careful examinations, bacilli be not found, phthisis may, with much probability, be excluded.

So far as my experience goes, an abundance of bacilli in the sputa of phthisical patients is evidence of active progress of the disease, and *vice versa*.

The prevention of the disease can be effected by the accomplishment of either one of two objects, namely:—First, avoidance of all exposure to the contagium; and, secondly, the removal of the concurrent, cooperating conditions in which consists the diathesis, the predisposition, or the susceptibility.

The first of these objects is not easily accomplished.

Preventive measures, moreover, relating to this object are not to be ignored. Healthy persons should not occupy the same bed with phthisical patients, nor the same room at night, unless the dictates of duty, humanity, or affection, require that the risk of infection should be incurred. Sanitaria for phthisical patients and situations considered as favorable for those patients, should be avoided by those who are not tuberculous, in their choice of health resorts. The disinfection of sputa from phthisical patients by some simple but effective means is to be recommended. The freest possible ventilation of rooms or hospital wards occupied by phthisical patients should be secured.

The prevention of phthisis by the removal of the predisposition is a more available method.

Ignorance of the particular conditions which constitute the predisposition to phthisis, is to be confessed, and we must, therefore, be guided by the lessons of experience and of common sense in the endeavors to remove this predisposition.

The treatment for the arrest of pulmonary phthisis has reference to two objects:—First, the destruction of the parasite, and, second, the removal of the conditions on which it depends for its existence.

Although not quite two years have passed since the announcement of Koch's discovery, many experimental observations have been made with a

view to discover an effectual parasiticide which will destroy the bacilli by direct contact, either by means of inhalation, or by introduction into the circulatory system. Various substances which are known to be destructive to micro-organisms outside of the body, have been employed, such as corrosive sublimate, iodoform, bromine, arsenious acid, salicylate of soda. Thus far they have proved ineffectual.

Let it be borne in mind that the continuance, as well as the origin, of pulmonary phthisis, depends on two factors—the presence of bacilli and the concurrent, coöperating conditions. The disease will cease to progress whenever either factor ceases to exist. Without the conditions just named, the generation of bacilli must end. Without bacilli, there can be no tuberculosis. The bacilli are destroyed by removing the conditions on which their existence depends, as surely as by an effective parasiticide. The measures for the removal of these conditions are precisely those pertaining to hygiene, which enter into the preventive treatment, and they need not be here recapitulated.

ANTISEPTIC INHALATIONS IN PHTHISIS.

This method of treatment is not particularly new, but its use has been depreciated by many, on the grounds which are noted by Dr. I. Burney Yeo in the *Brit. Med. Jour.*, January 12, 1884, as follows: "Two objections have been made to the use of antiseptic inhalations, which are in singular opposition one to the other. 1. That the vapors given off from the fluid which we drop on the sponge of the respirator are so strong and irritating, that they excite inflammation of the pulmonary tissues, and thus do injury; indeed, I have seen the antiseptic treatment of phthisis referred to in a medical journal as 'homicidal.' 2. The other objection does not accuse of homicide, but is content with pointing out that we are very foolish people to imagine that any useful or appreciable amount of our antiseptic substances reaches the lung at all! I do not know which of these objections is least in accordance with experience.

"With regard to the first objection, I can state most positively that I have never seen any symptoms of irritation set up by antiseptic inhalations when properly applied. With sensitive persons, it is desirable to begin by at first dropping a very few drops of the inhalant on the sponge, and slowly increasing the quantity; by that means, you will avoid all risk of irritation.

"The second objection scarcely needs answering at all; to some extent, it is a resurrection of the old dispute as to the use of topical remedies (in the form of vapors and sprays) to the respiratory surface, which was agitated fiercely many years ago, and the affirmative view thoroughly established by most elaborate and careful experiments by a number of observers in every country in Europe. The dispute and its results are fully related by Oertel in the work already referred to, and also by Dr. Solis Cohen, of Philadelphia, in his work 'On Inhalations.'" He has had good results, and after reading his paper, we would feel inclined to give a trial to the inhalation of a weak solution of corrosive sublimate, say 1 to 2000 or 2500, by means of a steam atomizing apparatus.—*Med. and Surg. Reporter*, Feb. 9, 1884.

ANTISEPTIC INHALATIONS IN THE TREATMENT OF PHTHISIS.

Mr. FREDERICK C. SHATTUCK, of Boston, in the *Boston Med. and Surg. Jour.*, February 21, 1884, says:—English and German journals have of late years contained a number of articles advocating the more or less continuous inhalation of carbolic acid and other volatile antiseptics in phthisis, a method of treatment which is not unlikely to come more into vogue with the development of the doctrine of the bacillus tuberculosis. It is found that pure carbolic acid can be inhaled for hours from an oro-nasal respirator without causing irritation of the air-passages, and some observers, prominent among whom are Burney Yeo, Curschmann, and Fraentzel, are favorably impressed

with the results. Dr. Hassall, of London and San Remo, has published several articles which tend to show that the application of volatile antiseptics to the respiratory tract by means of respirators and atomizers is inefficient.

ON THE PROGNOSIS OF PULMONARY PHTHISIS, ESPECIALLY OF DOUBTFUL FORMS OF THE DISEASE, BY THE PRESENCE OF BACILLI IN THE SPUTUM.

By Prof. GERMAIN SÉE, Physician to the Hotel Dieu, Paris, France.

We abstract the following from the *Med. and Surg. Reporter*, for January 19, 1884:—These bacilli, which present themselves under the form of thin rods, whose length equals the quarter or the half of a blood corpuscle, are met with in all the tuberculous products of men and animals. They also occur in the secretions, and notably in the sputa, and even, though in less quantity, in the blood, the urine, and fecal matters. They are also equally met with in the lesions of scrofula, adenitis, osteitis, and Cornil and Beasier have found them in lupus.

What well shows the influence of these bacilli on the development of phthisis, is the fact that from whatever source you obtain them, they invariably produce tuberculosis when you inoculate animals with them. They even accomplish this result more surely than tuberculous matter itself. From this point it is inferred that the bacillus is the most important element of tuberculosis. It is the unimpeachable evidence of the disease. It is plain then that we have here a valuable datum for diagnosis, and that from the presence or the absence of this parasite in the expectoration we are warranted in affirming the existence or non-existence of phthisis.

The bacillus test may render great service in the diagnosis of acute miliary phthisis and typhoid fever, diseases often confounded. The presence, duly noted, of bacilli in the sputa of these patients, suffices to exclude the hypothesis of typhoid fever.

2. The *larval phthisis* are those which commence under the form of an acute disease of the respiratory organs, which masks the characters proper to tuberculosis; for example acute lobar pneumonia, bronchitis, laryngitis, pleurisy. Here the examination of the sputa will clear up the diagnosis.

3. A third category of phthisis difficult of diagnosis, comprehends *pseudo-phthisis* with cavities, due to causes other than tubercles; a tumor, an ulcerated syphilitic gumma, bronchiectasis, etc. In these cases the symptoms remind you of advanced phthisis, but the examination of the sputa, in showing the absence of bacilli, suffices to settle the diagnosis, and saves you from mistake.

Finally, the detection of bacilli in the sputa has enabled us to solve a much-controverted question of pathogeny, to wit, whether the chronic catarrhs of diabetic patients are due to phthisis, or have a quite special etiology. The researches of Sommermann, of Rutemeyer, of Leyden, of Merkel, of Reigel, in showing the presence of bacilli in the sputa of such patients, have proved that the phthisis of diabetes is a true tuberculosis.

IS CONSUMPTION COMMUNICABLE ?

By JAMES LEAMING, M. D., Professor of Physical Diagnosis and Diseases of the Chest in the New York Polyclinic, etc.

This writer in the *New York Medical Journal*, for December 1, 1883, says:—From the earlier days of medicine to the present time there has ever been a popular belief that consumption is communicable. The profession has at times inclined to the popular faith, and again has rejected it.

Lately the medical world has been set wild by the publication of the discovery of Professor Koch of the presence of bacilli in tubercular cavities and in tubercle sputa. To be entirely consistent, the germ theorist must deny the influence of heredity and external conditions, of local irritations or the depression of vital dynamics, as causes of consumption.

If it were not for the adoption of Professor Koch's theories, as well as the acknowledgment of his discovery of bacilli by gentlemen of high scientific attainments, such as Professor Rühle, of Bonn, and others, controversy would be unnecessary; but, as it is, we must examine the subject critically but dispassionately.

So far as I am aware, fibroid phthisis is not included in the forms of consumption claimed to be propagated by bacilli. The germ theorists appear to assume that all forms of phthisis are tubercular. But a large number of cases are fibroid, pure and simple, in which the diathesis is gouty or rheumatic, and not scrofulous. This large number are exempt from suspicion even. Again, a vast majority of cases of tuberculated phthisis commence with plastic exudation within the pleural cavity. I do not doubt the discovery of bacilli in tuberculous cavities nor in the sputa of tubercular consumptives, but I cannot accept the inference that they are the essential cause of tubercle. They may find in a tuberculous cavity a fit soil or home where they may grow and multiply. There may be spores, eggs, germs, laid there by their parents, which when perfected, may fly away to seek other tuberculous cavities in which to lay their eggs, etc.

It is not probable, nor according to analogy, that the bacillus was always in that state, or that it will always remain as such, to be transplanted to healthy lungs and to cause tuberculosis; for it is not the disease, but a parasitic life which grows and perfects itself in the decay and débris of tuberculous cavities. It may increase the rapidity of decay in the necrosed lung, as the maggot does in the carrion, and it is our duty to prevent this if we have the knowledge and power. But the bacillus is not necessary to explain the occurrence, cause, and course of phthisis—fibroid or tubercular.

Even in tubercular phthisis, for a considerable time the disease is simply fibroid.—preventable phthisis.

One word for the poor consumptive. Morbidly sensitive to all unpleasant sights, smells, and surroundings, and whose greatest comfort is kind and sympathizing companionship, is it not the refinement of cruelty to drive away from him unnecessarily those who should minister to his suffering?

CONTAGIOUSNESS OF PHTHISIS.

We find the following in the *Medical Record*, February 9, 1884:—It may also be of interest to allude briefly to the results of some experiments recently undertaken by Drs. Celli and Gaurneiri and published in the *Gazzetta degli Ospitali*, No. 56, 1883. These investigators were unable, after the most careful search, to find tubercle bacilli in the air of an unventilated room in which phthisical patients had been sleeping. The expired breath of these patients was likewise found to be entirely free from bacterial contamination. Nor could the specific micro-organisms be discovered in air which had been passed through the sputa of tuberculous patients, although in every case the expectorations were found to contain them in large numbers. They were also unsuccessful in attempts at inoculation with fluids impregnated with this presumably vitiated atmosphere. It would thus appear that the fears of those who lay too much stress on *a priori* reasoning and too little on the facts of common experience, are to be treated as an exaggeration of morbid apprehensiveness.

TUBERCULOSIS AS PRODUCED BY SPRAYED SPUTA.

By LOUIS D. BROWN, M. D., Ph. D., Professor of Anatomy in the Medical College of Evansville, Ind., etc.

This writer in the *Medical Record* for November 24, 1883, says:—My object in undertaking these experiments was to convince myself as to the infectiousness of tuberculosis. Were I asked to express my opinion previous to this research, I should have registered against anything specific in its production. This would not have been simply from literature.

Dr. Brose then gives the details of his experiments. This is followed by a resumé of the literature of the subject, and the writer gives the following conclusions:

First.—That tuberculosis may follow the inhalation of air-carrying particles of sputa from phthisical patients.

Second.—The breath and saliva of consumptive persons, being thus contaminated, are liable to originate, either through kissing or by direct inhalation through close contact, the same disease in a healthy person; the greater the concentration of the breath inhaled the greater the danger.

Third.—Since the same sputa in animals killed under ten days produced no disease, and since the healthy brain of other animals produced no disease, in cats even when under observation for a period longer than twenty days, while true tuberculosis always followed (in five of my own cases) the inhalation of tuberculous sputa in animals between eighteen and thirty days after the first spraying, I feel warranted in inferring that in the last instance there was something specific in the inhaled spray requiring certain development before originating the infectious disease, tuberculosis. That it was alone the *tubercle bacillus of Koch*, I have not claimed. My own opinion regarding the origin of tuberculosis, formed from this research and a no inconsiderable clinical experience with the disease, is that, like diphtheria, it is ordinarily determined by certain peculiarities and susceptibilities in individuals, together with the presence of a specific principle. Now when a person who has this peculiarity of weak lungs, or in other words, one in whom bronchial and catarrhal troubles are easily excited, has superadded the infection of tuberculosis, let it be in a minimum amount, we have arising true consumption running through its various stages. Even healthy persons can thus be infected. The reason why we have acute disseminated miliary tuberculosis in one case, and a catarrhal phthisis in another, will depend upon the susceptibility of the individual to catarrhal cell-proliferation and whether the specific principle was superadded to an already existing catarrh, in which case the specific principle would reproduce itself easiest at the seat of tissue necrobiosis.

NON-CONSUMPTION OF FATS BY PHTHISICAL PATIENTS.

By G. W. JOHNSON, M. D., of SAVANNAH, Ill.

We take the following from the *Med. and Surg. Reporter*, Jan- 12, 1884:—The writer in a limited way, such as falls to the lot of a country practitioner, has observed among all his phthisical patients, without an exception, an aversion during their entire lives to the consumption of fats.

I have been so uniformly impressed with the fact, that I often make use of it as an aid to diagnosis, and when a patient presents him or herself, for advice, with symptoms which are suspicious, and look rather toward tuberculosis, and the patient is quite anxious as to the result of the trouble, and I can, on making inquiry, ascertain that they are lovers and eaters of fat, I feel a reasonable sense of security, and give them encouragement to hope for a happy termination of their difficulty.

It is well known that fats, especially cod liver oil, have a powerful influence for good, when administered to consumptive patients, this form of fat only being selected because of its easy assimilation. Would not good fat beef taken *ad libitum*, be equally efficient, granting that it be properly digested and assimilated?

Bennett, in Reynolds' practice (page 121, Vol. II), says: "An observation of the peculiar dyspepsia which so frequently accompanies tubercular disease, will satisfy the observer that it depends upon excess of acidity in the alimentary canal, which favors the solution of the albuminous and mineral matters, but is opposed to the emulsification of fat. It is the non-assimilation of fatty elements of food, and their diminution in the blood while the albuminous elements are comparatively in excess, that gradually interferes with nutrition; the molecular basis of the chyle is impoverished, the elementary molecules so necessary for the formation of healthy blood

corpuscles are diminished, the liquor sanguinis consequently is poor in fat and rich in albumen, the entire growth of the constitution as a result is affected, and its powers rendered weak."

A READY METHOD FOR THE DETECTION OF THE BACILLUS TUBERCULOSIS.

By M. B. HARTZELL, M. D., of Philadelphia.

On account of its simplicity, and of the short time required to execute it, I wish to add another to the many staining processes already in use. This process appears to me to possess decided advantages over all others with which I am acquainted: by means of it the sputa of patients who are supposed to be tuberculous can be easily and rapidly examined, and the bacilli are so deeply stained that if any are present in the specimen under examination they cannot be overlooked, if ordinary care is used. The process is briefly as follows. A small quantity of sputum is spread as thinly and evenly as possible upon an ordinary glass slide; it is allowed to dry, which takes but a minute or two, and is then passed slowly several times through the flame of an alcohol lamp or Bunsen burner. One or two drops of the fuchsin solution, recommended by Gradle, and prepared as follows,—carbolic acid, mxv ; distilled water, fss ; dissolve, and add saturated alcoholic solution of fuchsin, fss .—are placed upon the sputum thus prepared, and allowed to remain from three to five minutes. The slide is now washed thoroughly with distilled water, to remove the excess of fuchsin, and the stained sputum completely decolorized by means of a saturated solution of oxalic acid. It is again thoroughly washed in distilled water, after the decolorization, and allowed to dry; it is now ready to be mounted in glycerin or balsam for examination. With a power of five hundred or six hundred diameters the bacilli will appear as brilliant red rods, no staining of the background being necessary.

In all other methods with which I am familiar, the decolorizing agent employed is dilute nitric acid; but this, besides being disagreeable to handle because of its corrosive and staining properties, is apt to remove the color from the bacilli too, unless great care is taken. Oxalic acid, however, seems to leave the dye untouched in them.

To render the process still clearer, the different steps may be arranged thus:

- 1st. Spread the sputum upon the slide, dry, and pass through the flame of the lamp.
- 2d. Stain with the fuchsin solution three to five minutes.
- 3d. Wash in distilled water.
- 4th. Decolorize with oxalic acid.
- 5th. Wash again thoroughly in distilled water, dry, and mount in glycerin or balsam.—*Medical Times*, Jan. 26, 1884.

AN APPARENTLY NEGLECTED PRECAUTION IN THORACENTESIS.

Dr. R. W. AMIDON, of New York, (*Medical Record*, Jan. 19, 1884), commenting on a case says: The failure to obtain fluid in this case depended upon ignorance or neglect of a point which I thought everybody knew. The mistake consisted in introducing the needle to its full length, exhausting the syringe and getting no fluid, from the mere reason that, in all probability, the point of the needle was imbedded in the lung. The way in which I invariably got fluid was to introduce the needle to its full length, then exhaust the syringe and, keeping up the exhaust, slowly withdraw the needle till a point was at length reached where a sudden gush of serum occurred, showing that a thin stratum of fluid lay between two thickened pulvæ or between the chest-wall and a lung bound down by adhesions. It was a matter of surprise to me that the presence of fluid, even in small amount, could not be detected by ordinary physical signs (a line of flatness changing its level by a change of position), and also that aspiration by such skilled hands should have so signally failed.

DISEASES OF THE ORGANS OF CIRCULATION.

THE PROGNOSIS OF MITRAL STENOSIS, PURE OR COMPLICATED, UP TO FIFTY YEARS AND OVER.

(*Am. Jour. Med. Sciences*, Jan. 1884.) Dr. DUROZIEZ, in an article on this subject, divides his cases of diseases or lesions of the heart into two classes, those in patients up to fifty years of age, and those of fifty years and over; of the latter class, he gives 198 cases. Of these 198 cases there are 35 of pure or complicated mitral stenosis. It may be interesting to know if many who suffer from mitral stenosis pass the age of fifty years, and what effect other cardiac lesions have on cases of mitral stenosis. Can we give these patients the hope of a relative longevity? This matter has received but little attention from authors.

Persons suffering from mitral stenosis live longer than is generally supposed. In the text-books the degree of asystolism is regarded almost to the exclusion of the personal appearances. Without doubt there are sufferings of greater or less intensity, but the patient lives. We say that the period preceding asystolism is long or very long, but this is indefinite. We say that the subject of mitral stenosis lived long, because the lesion commenced late. It is far from easy to fix upon the exact date of the commencement of a cardiac lesion.

Classifying his 35 cases by their complications and aggregate ages we find that: It is seen that mitral stenosis with mitral insufficiency heads the list with 554 years for 10 cases, with pure mitral stenosis next, 487 years for 9 cases. We find, however, that a tricuspid lesion is a very important factor in determining a fatal issue, only three living cases being given. We are also struck by the weight which aortic lesions seem to have. Lesions of the mitral valve permit the attainment of 60 years of age; those of the aortic orifice at most 50 years; those of the tricuspid scarcely 40 years. Of the 35 cases, 18 are males, and 17 females. Duroziez draws the following conclusions: 1. Mitral stenosis (so large as to permit the passage of a finger and giving rise to characteristic bruits), pure or complicated, by other valvular lesions, exceptionally permits one to pass the age of 60 years. 2. A complicating mitral insufficiency does not aggravate the prognosis. 3. A complicating stenosis does aggravate it. 4. A complicating tricuspid lesion makes the prognosis very grave.—*L'Union Méd.*, August 5, 1883.

MYOCARDITIS IN DIPHTHERIA.

The following appeared in the *Am. Jour. Med. Sciences*, January, 1884:—Unruh has met with myocarditis in eight out of 237 cases of diphtheria, and also in one case of scarlatina. There was nothing in the history of any of the cases to account for an affection of the heart. The diphtheria was always of a severe kind, and involved the uvula and pillars as well as the tonsils; the false membranes were fetid and of a dirty greenish color, and left deep ulcers after their removal. The heart affection began to make its appearance as soon as the diphtheria had ceased to spread. The first symptom of the heart being involved was furnished by the pulse, which suddenly became small and empty. Its frequency was at first unaltered, but, after twenty-four or thirty-six hours, was greatly increased (160–180); at the same time, the pulse became irregular. Both these qualities were greatly aggravated by changes of position. The heart's impulse was, in this stage, perceptibly and palpably weaker, and a little to the right of its normal situation. The heart's dulness extended in all the cases beyond the midsternal line, and in two (one being the fatal case) it reached a finger's breadth beyond the right sternal margin. With convalescence, it returned to nearly its normal dimensions. On auscultation, the first sound of the heart was

diminished in intensity; and, when the complaint was at its height, a blowing sound, like a chlorotic murmur, was heard. In only one case was there any præcordial pain. No information was derived from the thermometer. No purpura or other hemorrhage was observed in any case; and, somewhat remarkably, dyspnoea was absent in all. The patients were drowsy and apathetic, indeed too much so to ask for nourishment. Albuminuria was present in all. The albumen first appeared when the diphtheria was at its height; then it subsided, but reappeared in greatly increased quantity soon after the heart-affection showed itself. At the same time the urine diminished in quantity, and œdema, with in one case ascites, set in. The first symptom of amendment was the lessening of the albumen.

Of the nine children only one, a boy aged 11, died. There was no extensive fatty degeneration of the heart.

The first few cases were treated with digitalis or ergot, but neither drug had much effect. Camphor was then tried, and with marked benefit. It was given in combination with perchloride of iron. Stimulants were freely administered. The author anticipates the objection that the cases which recovered might have been simple neuroses of the heart, and founds his strongest argument against it upon the widening of the præcordial dulness. But this was marked in two cases only.

[The author would have done better to have given separate notes of the fatal case. But the weakest part of the paper is that which relates to the necropsy. We are not informed upon the following points: 1. Was the heart dilated or enlarged? 2. Of what nature were the "numerous cells?" 3. Did these cells represent the structure of the dark deposits? 4. Were the spots found in any other organ? In the absence of information upon these points, the diagnosis of even the fatal case cannot be unhesitatingly concurred in.—*Ref.*]—*London Med. Record*, Nov. 15, 1883.

A NOTE ON THE TREATMENT OF CARDIAC DROPSY.

Dr. JAMES BRAITHEWAITE says (*Lancet*, Nov. 17), although the diuretic action of digitalis in cardiac disease with dropsy is perfectly well known, it is very rarely indeed prescribed in that form in which its diuretic action is most marked. He generally orders half a small or medium-sized leaf to be infused with the addition of a little black tea, in about twelve ounces of boiling water, and taken daily. By this means, he claims, we get the full diuretic effect of the drug, in addition to its action on the muscle of the heart. He says, "The action of the ordinary tincture and of the powder given in pill is, as a diuretic, hardly noticeable, and the usual combination with squilla, solution of acetate of ammonia and spirit of nitric ether is much inferior to the infusion."—*Maryland Med. Jour.*, Dec. 15, 1883.

THE DANGER OF LARGE DOSES OF QUININE.

By A. A. SMITH, M.D., Professor of Materia Medica and Therapeutics, and of Clinical Medicine, in Bellevue Hospital Medical College.

We take the following from the *New York Medical Journal* for February 2, 1884:—Is the use of quinine in large doses ever dangerous in hyperpyrexia with tendency to heart failure?

In order that I may not be charged with prejudice in regard to the use of quinine, let me say at the outset: I place it second in importance only to opium, in our armamentarium of drugs, in the treatment of diseases in this region.

It will be admitted that one of the most serious dangers to be apprehended in any disease in which high temperature prevails for a few days is the so-called heart failure.

As the two types of fever, typhoid may represent the fevers of long duration, and pneumonia those of short duration.

Almost all observers agree that when quinine is given as an antipyretic it should be given in one single large dose, or at least a large quantity must be given within an hour. Usually this need not be repeated within twenty-four hours. Others give the large doses at twelve hours' interval. A large dose may be anywhere from twenty to sixty grains, depending somewhat on the observer and somewhat on the height to which the temperature has risen.

The physiological effect of quinine on the circulatory system is a subject of great interest, and especially in view of the question for discussion.

Almost all observers agree that small doses of quinine, say from two to five grains, stimulate the heart both as to frequency and force. Almost all observers agree that large doses act, in many cases, as powerful antipyretics. Some even attempt to explain their antipyretic effects by their influence as an arterial and cardiac sedative. The effects of quinine on the circulation may be studied from two standpoints—that of the experimentalist and that of the clinician.

The experiments of Eulenburg and other observers seem to show that quinine in sufficient quantity causes a diastolic cardiac arrest by a direct depressant action on the heart. Other experiments seem to show that toxic doses of quinine paralyze the vaso-motor nervous system.

The pallor of countenance, with coolness of lips and skin and coldness of extremities, which sometimes follows large doses of quinine, seems to me to be due to depression of the heart's action or a depression of the circulation through the vaso-motor nervous system.

In some patients there is a great susceptibility to the influence of quinine, and frequently "fluttering" at the pit of the stomach and over the præcordial region, with coldness of hands and feet, is complained of.

I have in a number of instances noticed patients, to whom I have been giving large doses of quinine to reduce temperature, have the temperature suddenly fall, while they passed into a condition of exhaustion with profuse perspiration, feeble pulse, cold hands and feet, and sighing respiration.

I have for some years felt that, if the physiological effects as above described are correct, there comes a time in almost all febrile conditions when quinine may be dangerous. This time is when the heart begins to fail, and this usually occurs from the third to the sixth day in pneumonia, and during the second week in typhoid fever, taking these merely as types of fevers of short and long duration. The temperature after heart failure begins may be as high as, or even higher than before, certainly a very important fact in view of the foregoing statements, and in view of the almost routine practice of prescribing large doses of quinine in high temperature, whatever the condition of the heart may be.

Agents can be given to counteract the effects of large doses of quinine on the heart, should always be given where there is the tendency to heart failure, but must be given in such a way that their effects will be kept up continuously. Almost any of the cardiac stimulants will aid in counteracting the effects of these large doses of quinine; but I have found small doses of opium answer the best purpose. In doses of from a quarter to a half grain, opium is a cardiac stimulant, besides being, under conditions of high temperature, a great sedative to the nerve perturbation which accompanies such a condition.

My observations have led me to the following conclusions, although I am still open to conviction:

Large doses of quinine should not be given in any case of high temperature after heart failure begins, unless agents to counteract their effects on the heart are given.

Great caution should be exercised in giving large doses of quinine, in high temperature, in any case of organic heart disease with enfeebled power. They should be used cautiously in old people with high temperatures.

PURPURA FROM QUININE.

By E. WIGGLESWORTH, M. D.

Patient, a respectable woman, aged fifty-two years, was referred to my clinic at the City Hospital by Dr. C. F. Folsom. She had received in his

department twelve quinine pills, of one grain each, for neuralgia. She had never suffered before from any disease of the skin.

The first pill was taken the 12th October at four P. M. At 5 P. M. she noticed upon the left fore-arm a scarlet, non-elevated, irregular circular patch, about as large as a silver half dollar. This itched and burned and was somewhat painful, especially on pressure. During the day there were three or four chills, with fever between. Fever worse at night, with nausea, "neuralgic" headache, tinnitus aurium, and weakness. More spots like the first appeared during the night, covering the fore-arms and ankles. These all increased in size and in severity of subjective sensations during the following day (18th October), confining her to her bed. No new spots, however, appeared after the night of the 12th to 18th inst.

Not attributing the eruption to her medicine she continued her pills, taking the last one after dinner Wednesday, 17th inst. From the 15th to the 17th all the symptoms were at their height.

Wednesday (17th) she began to feel easier, and has since grown steadily better.

Friday, 19th. Complaints of weakness. The spots are well marked, but not swollen. hæmorrhagic patches, not disappearing under pressure.

October 26th. Patches dull in color, desquamating slightly, with some itching.

October 29th. Desquamation more marked; color, a deep brown. No subjective sensations unless the spot is struck.

November 2d. Patches have scaled and the color has faded, although still evident.

November 9th. Patient called to report recovery. No further trouble of any kind, and merely a slight pigmentation marking the site of the patches.

Treatment. Hygiene; tonics, namely, iron, and, *experimenti gratia*, "celerina," from which she reported benefit. Externally astringent ointments, zinc, etc.—*Boston Med. and Surg. Journal*, Dec. 20, 1883.

INVESTIGATIONS INTO THE ACTION OF THE DIGITALIS-GROUP.

The following is from *Am. Jour. Med. Sciences*, Jan., 1884:—At a meeting of the Royal Medical and Chirurgical Society on November 27, Dr. Sidney Ringer read a paper on this subject. Digitalis was taken as the type of a group of drugs whose influence was exerted mainly on the circulatory system. The facts of chief importance in this action were:—1. The arrest of the heart in systole (if the dose were sufficiently large); 2. the raised blood-pressure which obtained throughout till close upon the final systolic arrest. The action of digitalis upon the heart must be thus defined: as the production of continuous spasm of the heart-muscle by direct action of the drug on this tissue. It was pointed out that this spasm could not be of the nature of a tetanus. Thus defined, the already very large group of bodies classed by Schmiedeberg under the heading digitalis became yet larger, and would include, amongst others, the caustic alkalies and barium salts. The results obtained with digitalis were both uniform and striking; invariably, on the addition of the drug, the circulation became slower, even to the extent of almost complete stasis. Similar experiments were made with the following members of the digitalis group:—Strophanthus, dyak poison, convallamarin, and scillitine. In the case of each of these drugs, evidence of constriction of the vessels was obtained, in the shape of a slowed circulation-rate. Digitaline, however, ranked as by far the most active of the above. Similar experiments were made with hydrate of potassium, and with the carbonates of potassium, and sodium bicarbonate, which, with the exception of the last, gave like evidence of constriction of the arterioles.

To sum up, the argument, briefly stated, was as follows:—Starting from the systolic digitalis heart, which was admittedly a result of direct action of the drug on the cardiac muscle, the following conclusions were arrived at:—1. For the other members of the digitalis group here examined, a like action obtained. 2. It was suggested that the local action on the heart might serve

as the definition of the action of digitalis; this accepted, Schmiedeberg's already large group must be still further enlarged. 8. Arguing from this action on the muscular tissue of the heart, it was inferred that the action on the muscular tissue of the arterioles would be similar—an inference verified by actual experiment. 4. So far as the experiments went, it was not found that these drugs influenced the calibre of the vessels indirectly through the nervous system. 5. It was pointed out that many of the digitalis-group were notable muscle-poisons, and that the tissue of the heart, standing functionally midway between the striped and unstriped muscular tissues, might permit of the inference that a marked action of the drug on the tone of the heart would indicate a similar effect on the tone of the vessels, whereas a marked action on the cardiac beat would indicate like action on the skeletal muscles.

Dr. Lauder Brunton said he should feel that he was showing best his high value of the paper by pointing out first in what points he was in disagreement with its results. The definition of the digitalis-group was, he thought, too wide. He had himself been engaged in some experiments on the group of substances which stopped the circulation by contracting the arterioles, and found that there were to be included in it many substances, such as cobalt, strontium, nickel, magnesium, and platinum, which were not generally recognized as having this effect. Their influence, however, he admitted, was much less than that of digitalis. In the consideration of digitalis, he thought it important to consider it as a whole in its effects on the heart, the nervous system, the vessels; and, when considered in this way, a smaller group of analogous drugs could be formed, as Schmiedeberg had shown, from which even veratria must be excluded, in spite of its similar action in many points. In this action on voluntary muscle-fibre, the members of this group showed very different results, varying not only with different species of animals, but also with different individuals of the same species.

The most interesting point in the paper had been the inference, from the action of digitalis on the heart muscle, that it would have the same effect on the muscles of the vessels, and the confirmation of this, to some extent experimentally, which Dr. Ringer and Dr. Sainsbury had brought forward. That digitalis does contract the arterioles he considered as proved, though it was not universally accepted; some experiments of his own, along with Meyer, in 1867, had shown it, and fresh proof had now been brought forward by Dr. Ringer.—*Brit. Med. Jour.*, Dec. 1, 1883.

DISEASES OF THE ORGANS OF DIGESTION.

DIFFERENTIAL DIAGNOSIS OF CANCER, SIMPLE ULCER AND CHRONIC INFLAMMATION OF THE STOMACH.

By C. C. P. SILVA, M.D., Professor of Therapeutics, College of Physicians and Surgeons, Chicago.

We take the following from the *Western Med. Reporter*, Jan., 1884:—The differential diagnosis of cancer, simple ulcer and chronic inflammation of the stomach is by no means an easy matter, for these affections are similar in their morbid manifestations, and have no pathognomonic symptoms.

Chronic inflammation of the stomach is characterized, functionally, by divers alterations of the digestion analogous to those of acute inflammation, but less intense and more lasting.

Symptoms and Progress.—The initial symptoms of chronic inflammation of the stomach are obscure and common to the divers lesions of that viscus; the patient experiences a sensation of weight, constriction or heat, and sometimes a dull pain in the epigastrium; the stomach becomes intumescent and tympanitic, the digestion is laborious and difficult, and now and then gaseous eructations, with or without acrid liquid, take place. This condition may remain stationary for more or less time, yield to an adequate medication, or become aggravated. In the latter case, the symptoms already existent increase in intensity and others more significant make their appearance. The pain becomes acute, irradiates toward the hypochondric and intercostal re-

gions, presenting at times the type of a true gastralgia; it may appear spontaneously, but it is most frequently provoked by the ingesta. Intermittent at first, it becomes continuous in the advanced or graver cases. Nausea seems to be one of the most frequent symptoms of chronic gastritis, vomiting occurs less frequently in that affection and only appears later in the gravest cases. It may occur every day or every other day; the quality of the evacuation varies according to the state of vacuity or repletion of the stomach, and also to the time elapsed after the ingesta. Soon after eating, the vomiting is composed of alimentary substances; fasting, of mucus and sometimes bile. Black vomit has been observed in some cases of chronic gastritis, but only in the last stages and moments before death. These local symptoms precede or coincide with general manifestations. The subject emaciates rapidly, loses strength, becomes pale, the intellectual faculties are depressed, resulting in despondency and hypochondrism. The appetite undergoes divers alternations; in some cases remains normal, again it is exaggerated or capricious, and again there is real anorexia. The tongue is, ordinarily, normal, but it may appear glossy and red, whitish and seldom saburral. According to Hardy and Behier, when the disease tends to a fatal issue, the tongue is dry, smooth and red, sometimes covered with aphthæ which diffuse all over the buccal mucous membrane, the gums being soft and fungous. The pulse may be unaltered, but in some cases there may be a febrile reaction, principally toward the evening, with elevation of temperature. Constipation is very common in chronic gastritis, but it may alternate with diarrhœa, owing to the diffusion of the inflammation from the stomach to the intestinal tract.

Chronic gastritis is a disease of a lingering and irregular course. It may last for years with alternatives of long remissions, followed by pyretic paroxisms and terminate by complete recovery, or by a fatal issue. In the former case the symptoms gradually decrease and health is restored. In the latter all the symptoms are aggravated; the vomiting increases in frequency, and death results almost always from inanition.

Simple chronic ulcer is a loss of substance of the parietes of the stomach, possibly terminating by cicatrization. Confounded for a long time with cancerous ulcer; was first described by Professor Cruveilhier, who assigned it a place in the nosologic tables as a special morbid entity.

Etiology.—"All the determining causes of chronic inflammation of the stomach," says Cruveilhier, "can provoke the development of the simple ulcer." According to Leudet and Niemeyer, the excessive use of alcoholics is one of the most frequent causes of the simple chronic ulcer.

Age.—The following table by Jaskach and Brinton proves that the greatest frequency of the disease is in the advanced ages:

From 1 to 2 years, 3 cases.		
"	10 to 20	" 24 "
"	20 to 30	" 61 "
"	30 to 40	" 57 "
"	40 to 50	" 58 "
"	50 to 60	" 49 "
"	60 to 70	" 56 "
"	70 to 80	" 20 "
"	80 to 90	" 10 "

Sex.—The female is more subject to the disease than the male. Brinton, in 650 cases, observed 440 in women and 214 in men; Jaskach, in 340 cases, saw 98 in men and 232 in women, and Rokitsanski, in 70 cases, met with 32 in men and 36 in women.

Symptoms and Progress.—The symptoms of simple chronic gastric ulcer are divided by Rokitsanski in three periods:—

First. Obscure pains in the epigastrium; disturbances of digestion.

Second. Intenser epigastric pains; xiphoidian and rachidian painful points.

Third. Perforation, hemorrhage, and adhesions.

If we analyse a series of observations, however small, we notice, that the clinical facts disagree with that classification. If there is any disease where it is almost impossible to find two identical observations in their symptomatic manifestations, it is undoubtedly the simple chronic gastric ulcer.

Pain.—It is one of the symptoms that attracts the attention of the practitioner, the most, both for its frequency and differences in character.

At first, a sensation of weight or constriction in the epigastrium, later, it develops into a burning or piercing pain, circumscribed to a fixed point (xiphoidian point of Cruveilhier), occurring a few minutes or even hours after the ingesta, persisting during the gastric digestion, to disappear, gradually, after.

The pain may be spontaneous, or provoked by pressure, ingesta of food or drinks, chiefly alcoholics, movements or mental impressions. The pain is at first intermittent; in the gravest cases it becomes constant, and is frequently followed by vomiting.

The vomit is one of the less constant symptoms of simple chronic gastric ulcer, sometimes it appears as an initial phenomenon, again, only in the last stages of the disease; its frequency, however, is generally in relation with the age and gravity of the affection, and moreover with the adhesion of the stomach to other organs.

The nature of the vomit corresponds to the state of repletion or vacuity of the stomach. A profuse hæmatemesis or a minute hemorrhage, which remaining for some time in the stomach is vomited afterward, assuming the appearance of a dark brown substance, which is described as coffee-grounds vomit.

Hæmatemesis may appear in all the stages of the disease, but in the incipient stage it is a symptom of high value for the differential diagnosis between the ulcer and cancer of the stomach. The blood extravasated in the gastric cavity, may be in such a small quantity that it will provoke no vomiting, being expelled with the feces, which then exhibit a tar-like appearance, owing to the admixture of blood to the intestinal juices.

Cancer of the Stomach.—The etiology of this affection is very obscure. We can only cite three causes as bearing the testimony of observation: sex, age, and inheritance. Cancer of the stomach is more frequently met with in man than in woman (Valleix.)

In thirty observations Professor Valleix found twenty cases in men and ten in women, and with him all the authors who have made a study of the subject agree, exception being taken of Lebert, who, in his treatise on cancerous diseases, states that he observed this affection twenty-three times in women and nineteen in men, in forty-two cases. The tables of Espine agree with the statements of Lebert. In 116 observations he gives sixty-two cases in women and fifty-four in men.

Age.—Cancer of the stomach appears, generally, after thirty-five years of age, and augments proportionately up to sixty, about which time its frequency begins to decline, as seen in the following table of Espine:

In 117 cases there is one at 31 years of age, 6 before 40; 13 between 40 and 50, 35 from 50 to 60, 34 from 60 to 70, and only 28 after 70. Thus this affection seldom appears in the first half of life, is often seen at the age of from 40 to 50, and attains its maximum of frequency from 50 to 60 years.

Inheritance.—All authors cite examples of families, wherein cancer of the stomach has made its appearance in all their members. Lebert, however, deviates from the general opinion.

Next to the uterus, the stomach is the organ most affected by cancerous degenerations. In 9,118 cases of cancer, Tanchon met with 2,303 cancers of the stomach. Cancer of the stomach may assume any of the three forms:—Scirrhus, medullary, and colloid; but the most common is the scirrhus form, and the pylorus or its vicinity is the most frequent seat of cancer of the stomach.

Symptoms and Progress.—Cancer of the stomach may exist in a latent state; that is, an advanced cancerous deposit may be seated in the gastric organ without exhibiting any of its peculiar symptoms; but in the majority of cases, before the characteristic tumor is felt in the epigastrium, other phenomena, more or less disturbing in their character, attract the patient's attention. These, as a general rule, are disturbances of digestion, nausea, vomiting, and later, more significant symptoms appear, which are almost always characteristic of the disease, as the shooting pain in the epigastrium, the cancerous cachexia, and the melanic vomit.

The appetite is variable, in some subjects it is normal or exaggerated, and again, it is nil; a true anorexia.

Epigastric pain is one of the most frequent symptoms of cancer of the stomach. (Lebert.)

The pain in cancer of the stomach appears spontaneously and unless the cancer is already ulcerated, it is never provoked by pressure or ingesta.

The vomit is a symptom almost as constant as the pain. (Lebert and Brinton.)

Hemorrhage, as a symptom in cancer of the stomach, is less constant than the pain.

Tumor.—In cancer of the stomach, a hard, resistant tumor is very frequently met with, which varies in size from a walnut to a fist, situated in the epigastrium toward the right side, between the super umbilical part of the median line and the edge of the right false ribs.

Oftentimes it is extremely difficult to find the tumor, chiefly because of its mobility in relation to the state of plenitude or vacuity of the stomach and of its adhesions.

In the majority of cases, the tumor is hardly sensitive to pressure, unless there is inflammation of the peritoneum or if this membrane is invaded by the cancerous affection. **Cachexia:**—Cancer-cachexia is characterized by a peculiar straw yellow hue, *sui generis*, and by loss of strength.

The following table shows the most frequent symptoms of each grouped so that they may show more conspicuously their characteristics:—

CHRON. INFL. STOMACH.	SIMP. ULCER STOMACH.	CANCER OF STOMACH.
Digestive disturbances, diffuse and dull pains, nausea.	Digestive disturbances, rare. Intense, acute, burning, fixed pain, sited in two opposite points, xiphoidian and rachidian; spontaneous or provoked by pressure or ingesta.	Digestive disturbances very frequent; pain, at first dull, later shooting spontaneous; only provoked by pressure in the last stage. Anorexia very frequent.
VOMIT.	VOMIT.	VOMIT.
Alimentary, mucus acid or bilious in the severest cases. Black vomit very rare, only just before death.	Alimentary, acid mucus or bilious, rare. Black vomit, very common and from the beginning in many cases.	Alimentary or mucus, very frequent and from the invasion of the disease. Black vomit very rare and only at the very last of the disease.
Hemorrhages, very rare, only in the last stages of the disease.	Hemorrhages, very common, by the mouth or rectum.	Hemorrhage rare and almost only in the last stages.
Epigastric tumor, incessantly rare.	Gastric tumor, very rare.	Epigastric tumor, very frequent.
Fever, very frequent.	Fever, very rare and always due to some intercurrent disease.	Fever very rare and almost always due to some intercurrent disease.
Cachexia, appears late and depends on the intensity and frequency of the other symptoms.	Cachexia, appears late and is due to other symptoms, hemorrhages chiefly.	Cachexia appears in the first five or six months; sometimes precedes the other symptoms.
Progress, irregular and intermittent, modified by medication and dietetic regimen.	Progress, irregular and intermittent, modified by medication and dietetic regimen.	Progress, regular and uniformly grave, medication and dietetic regimen of no avail.
Age, all ages are equally subject to the disease.	Age, old age is more subject to the disease.	Age, only observed after the age of 80.
Duration, long.	Duration, very long, sometimes twenty years.	Duration very short; maximum three years.
Termination, return to health possible.	Termination, return to health possible.	Termination, death.

THE HOT WATER "CURE."

The *Lancet* has some very timely remarks under this heading. It is probable that we have not yet begun to appreciate how wide-spread is the application of this so-called cure, nor how much mischief it is gradually producing. The article in question says very forcibly: There is no lack of evidence that crude or decomposing contents of the alimentary canal may be washed away by copious draughts of hot water, and that the apparatus of digestion thus cleansed at short intervals will work better than when it is coated with debris and excreta. On the other hand, it is not less well known that the mucous membrane of the stomach and intestines may become permanently congested, and the essential parts of its structure—the organs of secretion and absorption—rendered habitually swollen and turgid, with the result of impairing their functions, by too frequent "fomentation." Like everything else, the use of hot water as a "cure" needs to be determined by considerations of expediency, based on a precise judgment of the state and conditions in each individual case. If it should become popular to drink hot water largely, we shall soon be called upon to treat patients who have done themselves a lasting, and, it may be, a serious injury by this practice.

We heartily endorse these views as expressed in the *Lancet*, although we do not see how the gastric juice is to be ruthlessly washed away. As we understand it, the hot water is used only in the intervals of digestion, and as the gastric juice is secreted by the stimulus of food to be re-absorbed when it has performed its work of digestion, it could not directly be very much influenced.—*Jour. Amer. Med. Ass'n.*, Feb. 2, 1884.

SPASMODIC STRICTURE OF THE ŒSOPHAGUS.

Dr. D. BRYSON DELAVAN at the *New York Clinical Society* related the following case: The patient, a lady of forty, was struck in the neck about a year ago by a carriage-pole while crossing a street. She was knocked down but received no serious injuries. Some swelling and ecchymosis occurred at the side of the neck, the seat of the blow. She now suffered from great difficulty in deglutition, which was marked at the upper end of the œsophagus.

When this point was passed the act was easy until just before the bolus passed into the stomach. An œsophageal bougie passed easily into the stomach. On attempting, immediately after, to swallow a glass of water, the spasm was marked. She was despondent, having been treated in various ways without benefit. He prescribed the mixed bromides in gr. x. doses three times a day. After a week the spasm disappeared, and had been noticed only once since that time. She had now been under treatment three weeks. He mentioned a case he had seen reported recently which had resisted all treatment until the uvula, which was much elongated was amputated. Prompt disappearance of the spasm followed. In his own case the uvula was normal.—*New York Med. Jour.*, Feb. 2, 1882.

TUBERCULOSIS OF THE VAULT OF THE PALATE.

Out of three hundred to four hundred cases of tuberculosis which come annually to Guttman's clinic, he finds that only one per cent. is affected by tuberculosis of the vault of the palate and its adnexa. Lublinski has met with only ten cases out of a total of sixteen thousand patients seen in five years; although twenty per cent. of all these were affected by disease of the air-passages, and it was always in those patients in whom the tuberculosis of the lungs and larynx was very far advanced that he saw this complication. Guttman states, in answer to the possible criticism that many cases may escape unnoticed, that this is scarcely possible, on account of the pain caused by the disease, and especially the difficulty in deglutition.

As to the etiology of the affection, these two authors endorse the opinion of Rindfleisch that tuberculosis of the larynx is occasioned by the expectoration, and in like manner is the vault of the palate affected. As a primitive disorder the disease does not exist.—*Deutsche Med. Zeitung*, No. 19, and *Revue Mensuelle de Laryngologie, d' Otologie et de Rhinologie*, December.—*Medical Times*, Jan. 26, 1884.

HOURLY CONTRACTION OF THE STOMACH (CONGENITAL).

Dr. J. H. Musser presented, at the *Path. Soc. of Philadelphia*, a stomach removed from the body of an adult patient who died of organic heart disease. Constant vomiting occurred a few months before death, but as a sequence of the general condition of the patient, and not on account of the gastric change. I call the appearance congenital because of the absence in the clinical history of any occurrence throughout life to have caused it, and of the want of evidence on post-mortem inspection. The contraction took place in the centre, and was transverse; the peritoneum and submucous connective tissue were thickened at this point. Anterior to the constriction the muscular coat was hypertrophied. The mucous membrane was thrown into folds in the constriction.—*Medical News*, January 26, 1884.

TINCTURE OF GUAIAK IN THE TREATMENT OF ACUTE SORE THROAT.

By Jos. B. POTSDAMER, A. M., M. D., Philadelphia.

The following appeared in the *Med. and Surg. Reporter*, Jan. 19, 1884:—The term sore throat being both general and vague in its application, I am still led to its use, there being no other word which would embrace, and at the same time indicate, the diseased parts which are to be treated with the remedy to which I wish to call attention. In an inflammation of the throat, we find the inflammatory action most intense at certain points; at times, the tonsils bearing the blunt; again, the posterior wall of the pharynx, etc. The tincture of guaiac has been used without reference to this point.

In his "Practice of Medicine," Dr. Fred. T. Roberts states that guaiacum has been supposed to exert a special influence upon the disease in question.

Phillips, in his "Materia Medica and Therapeutics," endorses the use of the drug in the following terms: "Recent clinical experience has shown that guaiac is a capital remedy in tonsillitis. Given in half-drachm doses (tincture) every four hours, it appears to abate the inflammation and to cut short the disease in a remarkable manner."

It is hardly necessary to state that Morell Mackenzie and J. Solis-Cohen are among, if not the most active, supporters of this mode of treatment.

I was first led to use this treatment in the winter of 1879, and then only after a succession of trials upon myself. During that winter I was subject to attacks of sore-throat. The first, which occurred in November of that year, was quite severe, and was entirely cured in two days. About six weeks later, after exposure to wet and cold, was threatened with another attack, having sharp pains in the region of the tonsils and difficulty in swallowing. The parts were highly congested. This attack was aborted by the prompt use of the ammoniated tincture of guaiac in half-drachm doses every three hours. Was well in twenty-four hours. Two subsequent attacks were aborted in like manner. Since then have not had a recurrence.

Trousseau, adhering to the view that this disease gets well spontaneously, makes no attempt to cut it short. Summing up the opinions of the various authorities quoted, we must come to the conclusion that those who have given the drug a fair trial have noted the efficacy of it not only in ameliorating the symptoms, but in cutting short the disease. As Mackenzie in his work on "Diseases of the Throat," says: "In cases of deep tonsillitis the treatment required is more active, but fortunately there is a remedy which,

if administered at the onset of the attack, will almost always cut short the crescent inflammation. This is guaiacum."

The practical deductions that I draw from the cases that have been under my treatment are:

1. The almost instantaneous relief from pain.
2. The improvement in deglutition which always accompanies the former.
3. The early diminution of the swelling.
4. The short course of the disease—all the cases having been practically well on the fourth day of treatment, if not sooner. As an argument against the last deduction might be urged that the disease has run its natural course and terminated by limitation, that this is not so can easily be seen by referring to the cases related, some of which were sick from three to ten days prior to the beginning of the treatment.
5. If the case comes under treatment early enough, the disease can be aborted.

Even if we were to agree with Trousseau and others, in admitting that the disease must run its natural course, we have no right to act supinely, as by the use of guaiacum we certainly ameliorate and, as I believe, cut short the disease.

ON THE ACTION OF INFUSED BEVERAGES ON PEPTIC DIGESTION.

The *Jour. Amer. Med. Ass'n*, Feb. 2, 1884 gives a summary of the results of a series of experiments performed by Dr. James W. Fraser.

From these experimental results the following practical conclusions are to be drawn:

If at any meal containing much albuminoid matter, infused beverages be drunk instead of water, the person making the meal must either eat more albuminoid matter or be content to suffer that loss. This is, of course, undesirable, for, even if the power of the beverage to reduce tissue waste, were such as to compensate for the albuminoid matter lost, it would manifestly be more economical to take the infused beverage on an empty stomach, and then, when meal-time came, less food would be required.

If flatulence be the chief cause of trouble, tea should be avoided when animal food is eaten; coffee being the best beverage.

If the dyspepsia is of the acid form, tea is the worst, coffee neutral, and cocoa the best beverage, from its increasing the consumption of acid. This would apply to the over-acidity of the gastric juice and to its over-secretion, but if there is any tendency to the lactic acid fermentation, cocoa should be avoided, from the sugar it contains.

In the case of those who habitually eat too much albuminoid matter, which, if absorbed, would have to be eliminated by the kidney as urea, and so might cause gout or some renal complaint, tea would seem to be a useful beverage by its property of preventing the digestion of some part of the food, and causing it to be rejected unabsorbed.

The after-dinner cups of coffee and tea may have their uses, but from a digestive point of view are hardly free from disadvantages.—*Edinburgh Clin. and Path. Jour.*

THE INFLUENCE OF ALCOHOL ON DIGESTION.

The *Maryland Med. Jour.*, Feb. 9, 1884, gives the following conclusions of Buchner as the results of a series of experiments in the influence of alcohol on artificial and gastric digestion:

1. Alcohol by itself, up to ten per cent., has no effect on artificial digestion.
2. Increased to twenty per cent. the process is lengthened.
3. A still higher percentage stops digestion entirely.
4. Beer has the same effect if used undiluted.
5. Likewise the red and sweet wines, while white wine, pure, merely delays it.

6. In ordinary gastric digestion, beer appears to act unfavorably, even in small quantities.

7. Wine is the same.

8. When the absorption and secreting functions of the gastric mucous membrane are impaired, alcohol completely checks the progress of digestion.
—*Q. J. of Inebriety, Jan., 1884.*

DISEASES OF THE URINARY ORGANS.

THE COMPARATIVE VALUE OF THE NEWER TESTS FOR ALBUMEN IN URINE.

By CHARLES W. PURDY, M. D., of Chicago, Ill.

We take the following from the *Journal of the American Medical Association*, January 19, 1884. Although the mere presence of albumen in urine can no longer be regarded as anything further than presumptive evidence of damaged kidneys; yet, it has so long formed the basis upon which the diagnosis of renal pathology has been constructed, and, moreover, as an element considered with other symptoms it still holds, and is likely to hold, that it has an important place at least in preliminary investigations of renal disease. Therefore, all matters concerning the most reliable and ready methods of detecting the presence of albumen in urine must remain of practical interest and importance to the general practitioner. Much attention has been given of late to several newly proposed agents for detecting albumen in urine, both in this country and in Europe. Some of these, it has been claimed, are so exceedingly delicate in reaction as to detect the presence of albumen when the older methods, as by heat and nitric acid, failed to do so completely. Furthermore, most of these agents have been indorsed by some of the best authors on renal diseases, both here and abroad.

The general practitioner may, in consequence, encounter some confusion in deciding whether it be wise to accept the newer and readier methods or adhere to the older and long tried agents already in use. It is proper that we should carefully inquire into the relative value and reliability of the newer, as compared with the older tests, with the view of assigning to each their proper spheres in the routine of daily work. Dr. Purdy then gives the method of preparing the following tests:

(1.) The *acidulated brine test*, brought forward by Dr. Roberts in *The Lancet*, Oct. 14, 1882.

(2.) *Picric acid* was first brought forward by M. Gallipe in French current literature in 1872. Dr. G. Johnson more fully discussed its merits in *The Lancet* in Nov., 1882; as does also Dr. Pavy.

(3.) *Tauret's test*, or the potassio mercuric iodide solution, first proposed as a test for albumen by Tauret, of Troyes, in 1872. Mr. Guy Neville Stephen first called attention to its comparative value in *The London Lancet*.

(4.) *Sodium tungstate* was first proposed as a test for albumen by Dr. G. Oliver, of Harrowgate, in *The London Lancet*, Feb. 3, 1883.

Dr. Oliver first prepared all of these tests, save brine, in portable form, so that they could be carried in the pocket-book, and applied at the bedside of the patient. His method consisted in saturating chemically inert filtering paper with the test solutions, and cutting the papers into small strips. An acid paper was also prepared by saturating filtering paper with strong solution of citric acid. The application of these tests are as follows: A small test tube is used, with a capacity of say 60 minims. This is filled about half full of the suspected urine, and a citric paper is rolled up and thrown into the tube. After agitating for a minute or so, one of the other papers is added, say the potassio mercuric iodide, and if albumin be present, a white cloud at once forms about the last paper introduced.

Dr. Oliver has also prepared what he terms the compound papers, made by joining together a citric paper with one of the others. This simplifies

the application of the test, inasmuch as but one paper need be used in testing.

The above, then, in the main, are the newer tests proposed for detecting albumen in urine, and with all these, I have made careful and repeated experiments. I prefer the potassio mercuric iodide and tungstate papers to all others.

The most serious objection, perhaps, to all these newer tests, is the fact that they gave a reaction with other matters, occasionally present in the urine, such as peptone, mucin, parapeptone, and urates, and, moreover, if the patient be taking certain of the vegetable alkaloids, (notably quinine), or oleo-resins, or some of the alkalies, or even alcohol in considerable quantities, before the urine is voided, a similar reaction occurs, *none of which are distinguishable from albumen precipitate, without the additional employment of heat to the test*; and the latter in some cases decomposes the test solution, (notably the ferrocyanic.)

I think it may be laid down as a rule, to which I at least know of no exception, that *no test for albumen in urine is absolutely reliable unless combined with or followed by heat*. At a temperature of 72° to 75° C. serum albumen coagulates and becomes insoluble in *acid solutions*; and if of any quantity, the insolubility is perceptible in clear solutions in the formation of a more or less opaque cloud. I know of no other bodies met with in the urine, if that fluid be clear, and album in reaction, which will give a similar reaction.

Of course, in dealing with urine where the amount of albumen is large, most of the ordinary tests are sufficiently accurate to determine its presence beyond reasonable doubt; because phosphates, urates, peptones, mucin, bacteria, or other bodies, which may give a precipitate simulating closely albumen, are almost never present in sufficiently large quantities to throw down a coagulum of the density, appearance and extent of albumen, when present even in moderately large quantities.

The picric acid test seems to have excited more discussion than any of the others. It will quickly react with albumin in small quantities, but it has some serious drawbacks for general use. If allowed to mix with the urine (and it is not always possible to prevent this) it colors that fluid yellow, which is unfavorable for detecting faint traces of albumen. Again, if picric acid comes in contact with the fingers (and it often does in manipulating) it leaves ugly stains behind for many days.

In a paper on the "*Clinical Diagnosis of Bright's Disease*," which I presented to the Chicago Medical Society a year ago, I mentioned that I had been in the habit for years of estimating the approximate quantity of albumen in urine by the potassio ferrocyanide solution and acetic acid. Subsequent use in my hands shows that it much less frequently produces a precipitate with other bodies than albumen, in comparison to the other newer tests.

My reasons for using this test so much in daily work are as follows: In addition to being a fairly sensitive test, as to presence of albumin, it is a fair working volumetric test. I now do not use this solution for detecting the *presence* of albumen, because, in doubtful cases, the test can not be corrected by heat; the latter at once decomposes the ferrocyanide salt with an acid, liberating hydrocyanic acid, and producing a white turbidity in the solution, which might be taken for albumen.

The potassio mercuric iodide solution is an extremely delicate test (about equal to tungstate), very quick in reaction, almost clear (slightly bluish), keeps well, and is readily applied.

I have noted one objection which the tungstate does not possess, namely after the test is applied, it cannot be set aside and examined again satisfactorily. The potassio mercuric salt, in the presence of an acid, soon begins to decompose, liberating free iodine which discolors the solution and renders faint traces of albumen difficult to distinguish. This does not so materially detract from the value of the test, as the reaction is not immediate, and it is slow.

Dr. Purdy gives a series of experiments made to determine the relative sensitiveness of these tests, and then says: These experiments, and in fact all my experiments, were conducted with the same quantity of urine of

solution operated upon in each case, and similar size and make of test tubes were used in all cases. Now with reference to the reaction of certain of these newer tests in dilutions beyond the point where heat and nitric acid fails to give any change. *Is this reaction albuminous?* If it be albumen in minute traces, which these so-called more delicate tests show, where heat and nitric acid fail, it would go far toward proving what Gubler first suggested, in 1865, and afterward Ultzman, in 1870; and J. Vogel, in 1878; and Johnson, of London, in 1883; namely that traces of albumen may be a constituent of normal urine. I know of no reason why traces of albumen (probably untransformed) should not be present in normal urine (as sugar is now known to be), if, as M. Leube claims repeatedly, to have found it present in cutaneous sweat. But before accepting the above as fact, it must first be shown conclusively that certain substances known to exist in urine, closely allied to albumen, are not the ones which these newer tests give reaction with instead of albumen. Bence Jones refers to a peculiar case of this kind. Baylon describes an albuminoid substance under the name of albuminose, which is said to occur also in normal urine. Peptone-like bodies were found by O. Schultzen and L. Reiss in urine after phosphorus poisoning. The identity of this peptone-like substance with true album peptones is still doubtful. Finally, according to Bechamp, a protean substance can be precipitated from *every normal urine* to which he has given the name of nephrozymose. It has furthermore been stated on high authority, that no test yet known will detect albumen in traces more minute than will the old heat and nitric acid test.

I have conducted a number of experiments with the view of throwing, if possible, more light upon this question, from which it would seem there is a greater difference between the two native albumens (egg and serum) than has been generally supposed. I believe that heat and nitric acid is a peculiarly delicate and appropriate test for the former, as I have noted in testing, in the presence of minute traces of egg albumen in distilled water, that the reaction produced by heat and nitric acid is considerably more pronounced than by any other test. The coagulum seems more dense and opaque, but it is about equal to the mercuric test as to minuteness of quantity it will detect.

Now as to physiological albuminuria, so-called. It is surprising how many people in apparently perfect health have small traces of albumen in their urine; even by the heat and nitric acid test, if properly and carefully applied, it will probably show traces of albumen in 8 or 10 per cent. of such individuals. I believe, as a result of my own observations, that the majority of people of all ages have traces of albumen in their urine, either occasionally or constantly, as determined by the mercuric and tungstic tests.

A number of observers, Senator, Leube, and lastly Chateaubourg, have recorded results from examinations on a large scale, which are quite startling to believers in the pathological significance of albumen in small quantities in urine. Chateaubourg, of Paris, within the past year, has made a large number of examinations on healthy individuals. Of the 98 samples, 44 showed the presence of albumen.

I have personally obtained very similar results from observations on a considerable (though smaller) number of cases. I have examined the urine of many healthy persons, where the urine was otherwise normal, save that it showed the presence of albumen on the application of the mercuric and tungstate tests, but no reaction could be found with the heat and nitric acid, however applied. When I say, the urine of these persons was normal, I mean in appearance, sp. gr., in quantity and reaction, and I carefully examined it with the microscope, going over several slides, but failed to find casts, renal epithelium, or bacteria.

One of the most serious objections to the heat and nitric acid test, especially in cases where albumen is present only in small quantity, is the fact that if the acid be not added in sufficient quantity, we sometimes fail to get any change; and, on the other hand, if too much acid be added, it will dissolve small traces of albumen: thus in either case the test may be negative.

My friend, Prof. Walter S. Haines, of Rush College, has suggested to me a method of procedure, which I think obviates this difficulty. In applying

the nitric acid to the urine, he inclines the test tube quite obliquely, and thus allows the acid to flow slowly down the side of the tube and through the urine (which latter it does owing to its greater gravity) to the bottom, leaving behind, the urine acidified in increasing intensity, each layer from the surface to the bottom. Some of these strata will be found of exactly the proper acidity to give the albuminous reaction.

From the sum of my observations I draw the following deductions:

First:—That certain of these newer tests, as the potassio mercuric iodide, sodium tungstate, picric acid, and perhaps the brine and ferrocyanic, will detect *serum albumen* in more minute quantities than will the heat and nitric acid test.

Second:—That the most delicate and reliable of these, and possessing the fewest objections, are the potassio mercuric iodide and sodium tungstate tests.

Third:—That the test papers of Dr. Oliver, especially the sodium tungstate and potassio mercuric iodide, are handy measures for preliminary examinations of urine at the bedside of the patient for determining the presence of albumen in the urine.

Fourth:—That to be entirely reliable, the correcting influence of heat must be employed in applying all these newer tests.

Fifth:—That the potassio mercuric iodide, and sodium tungstate tests, and also the test papers of Dr. Oliver, are undoubtedly valuable acquisitions to our resources; inasmuch that through their greater delicacy and more ready applicability, they are likely to lead more frequently to resort to the microscope, and thus detect the early stages of certain forms of nephritis, which might otherwise escape observation, till too late to save or prolong life.

Sixth:—That the question of the near future, as to albumen in urine is likely to be, not only is it present, but *what quantity of albumen in the urine constitutes a pathological condition?* and this question must be largely determined by the microscope.

NEW VIEWS ON BRIGHT'S DISEASE.

At a recent meeting of the Académie de Médecine of Paris, Professor Semmola, of Naples, communicated to the Society the result of his latest experiments on Bright's Disease, under which term he understands chronic parenchymatous nephritis only. Semmola's experiments go far to show that the lesion in the kidneys is a secondary process. He injected daily under the skin of dogs ten to seventy grammes of white of egg; after four to five days, there were signs of congestion of the kidneys, which led to hemorrhage when the dose of albumen was large. After seven to ten days, leucocytes were found in the urine, and the renal epithelium began to show signs of fatty degeneration. This, after a fortnight, was well marked; and about the twenty-fourth day, there was evidence also of an interstitial lesion of the kidneys. The introduction of albumen into the blood produces a peculiar dyscrasia, and the quantity of albumen eliminated by the urine is larger than that which has been injected; in the animals experimented upon, the bile contained albumen, which is also the case in patients suffering from Bright's disease. As for the cause of the peculiar dyscrasia alluded to, Semmola thinks that it is an alteration of the nutritive functions of the skin. He tried also the subcutaneous injection of blood-serum, yolk of egg, and milk, the first caused a slight albuminuria, but the last two had no effect.—*Medical Gazette*.—*Maryland Med. Jour.*, Nov., 1888.

NITROGLYCERINE AND THE CHLORIDE OF GOLD AND SODIUM IN THE TREATMENT OF ALBUMINURIA.

By ROBERTS BARTHOLOW, M.D., LL.D., Prof. of Materia Medica and Therapeutics in Jeff. Med. Col., Philadelphia.

We abstract the following from the proceedings of the *Philadelphia County Med. Soc.*, Dec. 19, 1883:—Hitherto the therapeutics of renal diseases have not advanced in the same ratio as our knowledge of their pathology. It cannot be said now that a cure has been found, but that two remedies of real

value are available. My contribution to this symposium on albuminuria, consists in an attempt to define the place which these remedies should occupy in a curative scheme. To do this, in even the briefest way, I must clear the ground with a preliminary statement.

I start with the proposition that those renal lesions united by the common symptom—albuminuria—are of neural origin. There is a kinship between diabetes and Bright's disease. One of these is sometimes substituted for the other, and during the course of some rare cases of exophthalmic goitre this substitution occurs. Irritation of a certain part of the floor of the fourth ventricle is followed by glycosuria; of another part by albuminuria. It was, more especially the condition of elevated tension of the vessels which led to the use of nitroglycerine. This remedy before all else reduces the vascular tension. It also lessens the work of the heart by removing the inhibition exercised by the pneumogastric nerve.

Chloride of gold and sodium has quite another function. It has long been known that this remedy has a special direction to the genito-urinary apparatus. In common with some other agents of the class to which gold belongs—for example, corrosive sublimate—the chloride acts on connective tissue and checks its over-production, or its hyperplasia.

How and when are these remedies to be used?

Nitroglycerine is now administered, in the form of the centesimal solution—1 minim of the pure drug to 100 minims of alcohol. The initial dose of this one per cent. solution is one minim, which should be increased until the very characteristic physiological effects are produced. The susceptibility to the action of nitroglycerine varies greatly, and hence the dose cannot be stated in advance. It is necessary to produce some obvious effect. To maintain the same level of action, a slight increase in the dose may be required from time to time. As the effect is not lasting, the interval between the doses should not exceed three or four hours.

The administration of nitroglycerine should begin in acute cases immediately after the subsidence of acute symptoms. It is indicated in chronic cases at all periods, but is more especially useful, if given before hypertrophy of the muscular layer of the arterioles has taken place. When it acts favorably, the amount of albumen in the urine steadily diminishes. The mechanism of its action consists in the lowering of the pressure in the renal vessels.

Chloride of gold and sodium is indicated in the subacute and chronic cases, especially the latter. The earlier it is given the better, if structural changes are to be prevented or arrested.

The usual dose is $\frac{1}{16}$ grain, twice a day, but this may be much increased, if necessary. At the outset, $\frac{1}{16}$ grain may be given; in a week the dose should be lowered to $\frac{1}{32}$ grain, and after a month the regular dose of $\frac{1}{64}$ grain should be steadily pursued, with occasional intermissions. Indigestion, gastralgia and colic pains, nausea or diarrhoea, are occasionally caused by it; and if so, the quantity administered must be reduced. It is usually borne without any discomfort; but after prolonged administration, salivation, weakness, emaciation, trembling and other nervous phenomena may occur possibly. Such effects, however, are wanting in my experience.

The treatment of albuminuria by nitroglycerine and the chloride of gold and sodium, does not necessitate the exclusion of other means—hygienic, climatic, or dietetic. These remedies should, however, be given uncombined at different hours, and their actions should not be hindered or obscured by the effects of other agents given with like purpose. To this general statement there may be two exceptions: with nitroglycerine, amyl nitrite or sodium nitrite may be given; with the gold and sodium chloride, corrosive sublimate may be combined. If doubts may be felt in regard to the propriety of depending on the utility of these remedies, they need not be long experienced, for if no good effects are observed in two weeks, they may then be discontinued.

THE DIET IN BRIGHT'S DISEASE.

Dr. CHARLES PURDY thus writes to the *Chicago Med. Jour. and Ez.*, December, 1888:—We would suggest as the diet for the albuminuric patient as

follows: In the main it should consist of farinaceous articles, fish, vegetables, and fruits. Meats must be indulged in sparingly; very small quantities of lean meat alone being permissible. Soups should be prohibited; even the conventional beef-tea and beef extracts. Eggs should be excluded from the diet in albuminuria. It has been shown by Lehman and Stockvis that when the white of an egg is introduced into the circulation, not only does that escape by the kidneys, but a surplus of other albuminoids accompanies it. Senator says the lesson will apply to meat as well as eggs. "Any excess acts in two ways injuriously—by increasing unnecessarily the amount of urea and other waste products in the blood; and also by pouring into the system an overplus of peptones or other albuminous matters, which may simply have to be excreted, and cause irritation in the act." Cheese acts in a similar manner, and should not be used. Vegetables may be used freely, and the only ones to be avoided are the leguminous ones, which are too rich in albumin. Fats may be used as freely as the condition of the stomach will permit. Milk is one of the best articles of diet, but should not be too exclusive, as it does not furnish the elements of diet in a suitable proportion. The stomach should not be overloaded, it being an occasional observation that even in healthy persons albumen appears in the urine after a large meal. Small meals, more frequently repeated than usual, is a good rule to follow in such cases. Great discrimination is necessary in the matter of drinks in Bright's disease. Alcohol in large quantities, especially in concentrated form is generally believed to be injurious. If alcohol be permitted at all, it must be well diluted, and it is preferable to give it with some alkali or neutral water, as Vichy or Apollinaris water in excess. Alcohol stimulates the interstitial changes in the kidneys if used in quantities, hence the allowance should be very small—not enough to disturb to any extent the general circulation. Claret, sherry, and Marsala are the least objectionable. As to malt liquors, they should, as a rule, be excluded, though it is stated that lighter pale ales or Bavarian beer are nearly free from objectionable qualities.—*Med. and Surg. Reporter*, Feb. 9, 1884.

SUPPRESSION OF URINE FOR EIGHTEEN DAYS.

A fatal case is reported from Warsaw of a railway conductor, 45 years of age. The patient was admitted into the Child Jesus Hospital, Warsaw, on February 8, of the present year. He had then suffered for five days with complete anuria. From time to time one or two drops of mucous had passed the urethra. For two days no movement of the bowels had taken place; there were meteorismus, eructations, dull pain in the kidney region, headache, sleeplessness and restlessness. The patient attempted to evacuate urine three or four times in the hour, but without success. The pulse was weak, 100; temperature, 87 (C.); no urine came away on passing the catheter. Warm irrigations of the bladder, purgatives, extraction of blood from the kidney region, and warm baths produced no alteration. On the 12th of February vomiting set in, which lasted several days. The catheter was passed every second day, but yielded no urine. The vomiting became more frequent, and pyrexia set in, 88.50 (C.). On the 21st of February, for the first time, an ounce of urine was passed, and on the 22d, one and one-half ounces. The patient became still worse, and died on the 28d, after eighteen days of acute suffering. The autopsy showed widening of the calyces. In both ureters calculi were found, which completely prevented the passage of urine. The bladder was empty and contracted. No mention is made of uræmic (so-called) convulsions.—*The Medical Press*.—*Jour. Amer. Med. Ass'n.*, Nov. 17, 1883.

THE DIAGNOSTIC VALUE OF RENAL TUBE CASTS.

By ROBERT SAUNBY, M. D., Edinburgh.

The following is from the *Canadian Practitioner*:—Although the Profession is generally impressed with the notion that the presence of tube casts in the urine is a valuable clinical sign, I fear this remains, to a very great extent, a barren theoretical doctrine which bears no fruit in practice. This failure is

probably due to the want of precise rules for drawing correct inferences from these structures when they are found.

Busy practitioners sometimes tell me that they have no time to look for casts, but there would be no room for this excuse if the proper method of seeking them was more generally known, as it need not be a very difficult or tedious operation.

Probably the discovery of casts in the urine of patients suffering from jaundice, diabetes, secondary congestion of the kidneys, or even in more transitory conditions, as in the urine of Weston during his famous walk, has tended to throw doubt upon their value as evidence of renal disease, yet properly understood these facts are by no means opposed to the view that renal tube casts are the best, and perhaps the only certain indication we possess of the state of the epithelium lining the renal tubules. I believe that rightly interpreted they give us a large amount of trustworthy information of the highest importance in diagnosis and prognosis.

Since it has been shown beyond dispute, that albuminuria may occur, not only in acute diseases but in a large number of chronic maladies apart from renal disease, and even under certain circumstances in healthy men, it has lost its significance as evidence of Bright's disease. Moreover, we know that Bright's disease may be present and progress to its termination without albuminuria, so that we are obviously in want of some more trustworthy criterion. While I wish to accentuate the value of tube casts, which have been too much neglected, to the injury of practical medicine, I would not be understood to ignore the value of such important elements of diagnosis as the quantity and quality of the urine, dropsy, cardiac hypertrophy, pulse tension, or retinal changes, each one of which has received careful attention from me in previous papers.

Method of Looking for Casts.—The great secret in looking for casts with the microscope, is to use a low power. They can readily be seen with a magnifying power of 60 to 80 diameters. The urine should be allowed to stand for some hours in a conical glass, covered to protect it from dust. Daylight should always be used for making the microscopical examination. The lowest stratum of urine should be drawn up with a pipette, and six drops placed upon as many object slides, which are then covered with cover glasses, and examined successively. If no casts can be found on any of the six slides, I think, as a practical rule, we may conclude that none are present; but it is generally prudent to repeat the examination of another specimen of the urine, at a future date, before expressing an unqualified opinion. When, however, I have satisfied myself that no casts are being passed in the urine, I do not hesitate to tell my patient that he is not suffering from Bright's disease, or that for the present the morbid process is in abeyance. The absence of casts is most valuable in the diagnosis of cases of functional albuminuria, such as are often met with in young men, and are frequently associated with digestive derangements. My experience of these cases enables me to say that, as a rule, no casts are to be found in the urine, although it may be loaded with albumen; at the most, a single hyaline cast may be found in one stray specimen of urine. On the other hand, I believe casts are always to be found in Bright's disease, in at least greater numbers than this.

Varieties of Casts.—Casts of the renal tubules are usually described as of three kinds:—1, blood casts; 2, epithelial casts, and 3, hyaline casts. There are besides various compound varieties. Casts differ in size, and at one time considerable importance was attached to the difference, but at the present it is not held to be of any practical significance.

Blood Casts.—These casts indicate, as might be supposed, the escape of blood into the tubules of the kidney. It is now admitted that the most constant source of this hæmorrhage is the capillary tufts of the Malpighian bodies. These casts are seen in the early stages of acute nephritis, and at any period and in any form during the occurrence of congestion of sufficient intensity to cause hæmorrhage. They must, therefore, be regarded only as evidence of intense congestion and not as significant of any stage or form of Bright's disease.

Epithelial Casts.—There are two main types under which the renal epithelium appears in the urine in the shape of casts of the renal tubules. In the

first the cast is made up of a number of distinct small round granular cells, like leucocytes, but of smaller size, and which are, as their appearance suggests, the result of proliferation of the renal epithelium. These casts are met with in acute and subacute nephritis, and always indicate an active degree of inflammation in the kidney with proliferation of the renal epithelium.

In the second type the cast is composed of a mass of epithelial cells crowded together so as to obscure their individual outlines, and often rendered more or less opaque by fatty granular degeneration. These casts are formed by the desquamation of the epithelium which is pushed off the basement membrane of the tubule by the inflammatory exudation from the venous plexus surrounding the tubule. They are usually of large diameter from being moulded in tubes denuded of epithelium, and they indicate diffuse inflammation of the kidney. They are met with in all forms of Bright's disease, in cases of recent inflammation, and in those acute attacks which so frequently supervene in the course of chronic Bright's disease.

Hyaline Casts.—This last variety is that most commonly met with, as it may be found in all forms of Bright's disease, and at any stage or condition in which the renal epithelium is the seat of irritation. They are usually homogeneous, transparent bodies, though they may be obscured by fatty degeneration; they are non-fibrillated, not acted upon by acetic acid, but soluble in pure water, especially when warmed. These peculiarities led Robin, Roviada, and Cornil and Ranvier, to reject the current view that they are fibrine casts; and many authorities (Cornil, Wagner, Rindfleisch, Beale, and Aufrecht) regard them as produced by an exudation or secretion from the epithelial cells of the tubules. Strauss and Germont have recently confirmed this description, and it has also been supported by the observation of Cornil already quoted. But Salkowski and Leube, in their recent work on the urine, still adhere to the view that these structures are in reality fibrine, formed by the action of the dead epithelium upon the fibrinogen of the blood serum. This view is obviously based upon the theory of coagulation which we owe to Alex. Schmidt, and which has been recently called in question by the researches of Norris, Bizzozero, and Hart. But whichever view we accept, it is certain that these bodies are always produced by the intervention of epithelium, either in a state of irritation or actually dead. This latter point is the most important, and though I am personally inclined to accept Aufrecht's view, I am quite content in the meantime to go no farther than the statement that hyaline casts are evidence of destructive changes in the renal epithelium.

This view is not contradicted by the clinical experience of their presence in the urine of diabetes, jaundice, or secondary congestion, as under these circumstances they are neither numerous nor common, and the first and last of these conditions are known to lead in many cases to structural alterations in the kidneys. In jaundice too Mobius has shown that persistent excretion of bile leads to destruction of the renal epithelium. Their occurrence under such abnormal conditions as during Weston's famous walk can be reasonably explained by assuming that the renal epithelium suffered under the abnormal strain on the whole bodily functions, but the cause being transitory the epithelium could be fully restored to health, as there is ample warrant for the belief that this tissue possesses a considerable power of repair within certain limits.

Indeed these facts are in themselves strong proofs of the correctness of the view for which I am contending, as they show that we have a means of recognising very early and slight derangements of the renal epithelium. As this tissue participates early in the changes in all forms of Bright's disease, and as primary interstitial nephritis with perfectly healthy epithelium is a pure pathological fiction (as the frequency of hyaline casts in that very form would suggest were there no more direct argument), we may often estimate the extent and gravity of the pathological changes by the number and persistence of these organic deposits in the urine.

I am very glad to find that my views upon this subject have found an echo on the other side of the Atlantic, and that able clinical observers like Kinnicutt, of New York, Tyson, of Philadelphia, and Millard, have expressed themselves of the same opinion.—*Birmingham Medical Review*.

SURGERY.

OPERATIONS, APPLIANCES, DRESSINGS, ETC.

A CASE OF SUPPOSED DISLOCATION OF THE TENDON OF THE LONG HEAD OF THE BICEPS MUSCLE.

By J. WILLIAM WHITE, M.D., Surgeon to the Philadelphia Hospital, and Assistant Surgeon to the University Hospital.

The following synopsis was made from an elaborate paper published in *Amer. Jour. Med. Sciences*, Jan., 1884:—The writer first reviews the history of the few other cases in which this same accident, luxation of the tendon of the long head of the biceps muscle, was supposed to have occurred.

The earliest mention of it in surgical literature seems to have been made in the first quarter of the last century, or thereabouts. In the edition of the *Myotomia Reformata* of William Cowper, published thirteen years after his death by Richard Mead, at London, in 1724, appears the following description:—

“An extraordinary Case, relating to this Muscle, has more than once happened in our Practice. Particularly a Woman, three days before she consulted us, had (as she suspected) dislocated her Shoulder-Bone, by wringing of Linen Clothes after washing (which is commonly done, to express the Water), adding that, in straining her arms in that Action, she sensibly felt something (as she thought) slip out of its place on her Shoulder. After examining the Part, we were well satisfied that there was no Dislocation; but observing a Depressure on the external part of the Deltoid Muscle, and finding the two inferior Tendons of this Bicipital Muscle rigid, and the *Ovbit* thereby denied its due Extension, we suspected that the external tendinous Beginning (before taken notice of) was slipped out of its Chancel on the head of the *Os Humeri*; but finding the part at that time somewhat inflamed, we advised her to an emollient Application, and to give her Arm rest till the next day, at which time we found our Conjecture true; for by turning the whole arm too and fro, the Tendon readily slipped into its place, she recovering the use of the Part immediately.”

Monteggia (*Institutiones Chirurgiche*, t. v. 179) describes a case which has been quoted by Jarjavay.

Mr. William Bromfeild, Surgeon to her Majesty's Household, and to St. George's Hospital, in his *Chirurgical Observations and Cases* (London, 1778), says (p. 76):—

“I dare say many surgeons have seen a lameness in the shoulder from almost a similar cause, that is, the tendon of the *biceps* muscle, which runs in the excavated groove in the head of the *os brachii*, having by some turn of the limb, slipped out of the *sulcus*, and resting on one of the little exuberances of the upper part of the channel, till it returned, had occasioned, not only an immobility of the joint, but most violent pains.”

In the one hundred years which have elapsed since worthy Mr. Bromfeild thus confidently expressed his views upon this subject, but very few if any cases have been reported, which on examination seem to belong beyond question to the class of injuries which he here describes.

The case of Mr. John Soden, of Bath, communicated to the Royal Medical and Chirurgical Society of London, July 6, 1841, by Richard Partridge, Esq., is the one which has excited most comment, as the symptoms during life were in this instance supposed to be explained by the result of the autopsy.

In his remarks on this interesting case, Mr. Soden endeavours to explain the phenomena by attributing to the long head of the biceps the function of a capsular muscle. This case and Mr. Soden's remarks have been quoted by almost every writer on the subject since their publication.

Mr. G. W. Callender, in an article on Dislocations of Muscles and their Treatment (*The British Medical Journal*, July 18, 1878), wrote:—

"Perhaps of all tendons, those which have been most under notice are the biceps of the arm, and the conjoined tendon, which, through the patella, comes occasionally to be dislocated from the front surface of the femur. There is Dr. Hamilton's case of supposed dislocation of the biceps tendon; and in our London museums there are specimens showing displacement of the tendon of this muscle."

Dr. White gives apparently a complete *résumé* of the cases reported and continues by saying:—These clinical cases were long ago supplemented, and were supposed to be confirmed by the reports of dissections in which dislocation of the tendon of the biceps was found associated with other pathological conditions of the shoulder-joint. For example, in the *Medical Gazette* for May 24, 1835, Mr. John Gregory Smith reported seven cases of injury of the shoulder-joint as observed in the dissecting-room. No clinical histories were obtainable.

Mr. Edward Stanley, in the *London Medical Gazette* for 1829 (vol. iii. p. 12), wrote:—"In two instances I have found, upon dissection, the tendon of the biceps separated from the edge of the glenoid cavity, and firmly adherent to the margin of the bicipital groove; but there was no other unusual appearance of the parts, either in or about the joint. In a third instance, I found the tendon of the biceps dislocated from its groove, and resting upon the great tuberosity of the humerus."

On the other hand Pouteau, who believed that he had established the occasional dislocation of muscles from their aponeurotic sheaths, asks himself (*Mélanges de Chirurgie*, p. 433) if it is possible for tendons to become thus displaced, and, after some expression of doubt, declares that he is forced to the conclusion that, during the energetic contraction of muscles, the tendons themselves would break rather than their sheaths.

Mons. J. F. Jarjavay, Professeur à la Faculté de Médecine, chirurgien de l'hôpital Beaujon, etc., published in 1867 (*Gazette Hebdomadaire*, Nos. 21 and 23) a paper on this subject. After alluding to the cases of Bromfeild, Cowper, Monteggia, Stanley, Smith, and Soden, and summing up the symptoms, he adds that there is no doubt, however, that patients present themselves after violent strains of the shoulder, with acute pain and immobility of the joint, with a sensation of fatigue about the lower portion of the biceps, with a feeling of something displaced, and with a marked bruit produced by rotating the arm, but that these phenomena are due to a lesion altogether different from luxation of the tendon. In proof of this he reports five cases which he believes had characteristics that establish the fact that they were not due to a luxation of the bicipital tendon.

M. Jarjavay comes to the following conclusions, which refer to his own cases and to those of Cowper, Bromfeild, and Monteggia:—

1. Simple luxation of the long tendon of the biceps muscle does not exist, or at least has never been demonstrated.

2. The lesion which has been considered to be a luxation of this tendon, has its seat in the sub-acromial serous sac, and is an inflammatory enlargement.

Malgaigne says:—"There has never been a traumatic luxation of the tendon of the biceps, otherwise than as a complication of a fracture or luxation."

Dr. Robert W. Smith concludes an elaborate paper as follows:—"A long and careful consideration of the subject discussed in the preceding pages leads me to believe that the occurrence of partial dislocation of the head of the humerus upward, as an immediate result of rupture or displacement of the tendon of the biceps muscle from accidental violence, has not been anatomically demonstrated."

The author of the paper then reviews the statements of a large number of writers on surgery, and says:—We find thus, in studying the literature of the subject, and I believe that the foregoing represents about all of importance which relates directly to it, that the recorded evidence of the occurrence of dislocation of the tendon of the long head of the biceps muscle may be divided into two general classes:—(1.) The reports of clinical cases in which certain symptoms were referred by the writers to this displacement, but in which its existence was not otherwise confirmed. (2.) The reports of cases in which the tendon of the biceps was found luxated at an autopsy, or during a dissection, but in many of which no clinical history was obtainable.

A careful study of the foregoing evidence has convinced me of the impropriety of basing upon it either a dogmatic assertion or denial of the existence of this lesion, the Scotch verdict of "not proven," representing the opinion at which I have arrived, and which may be more formally expressed as follows:—

Although for more than a hundred years cases of supposed luxation of the tendon of the long head of the biceps muscle have been reported or alluded to by surgical writers, yet they have been so poorly observed or so carelessly described, that they fail altogether to carry conviction, the one case which possesses any strong element of probability being itself open to reasonable doubt.

CASE.—In September, 1881, I saw, in consultation with Dr. Thomas K. Reed, of Atlantic City, New Jersey, the following case:—

T. W., a carpenter, aged 37, previously healthy in every respect, while ascending a ladder, with his arms full of tools, lost his balance, and fell backward from a height of six or eight feet. While falling he made an effort to save himself, and so far succeeded as to effect a semi-rotation of the head and trunk, which brought the right anterior surface of the body into the most dependent position. His fall was arrested by a porch about fifteen inches in height, upon which the front of his right shoulder struck, his right ear just grazing the edge of it, but his head escaping all other injury. There was immediately acute pain and swelling over the right shoulder, with helplessness of the arm on that side.

The writer then gives the details of the examinations, and continues:—It will be seen, I think, on carefully analyzing the symptoms, that taken together they lead almost irresistibly to the conviction that, in this case at least, there had been true traumatic luxation of the bicipital tendon, and that each one of them is susceptible of rational explanation on this theory. They may be enumerated as follows: (1.) *The recognition of the bicipital groove, empty.* This, which was the symptom on which the original diagnosis was founded, is perhaps the most important of the group, as, if its existence be admitted, it is absolutely pathognomonic. In very thin persons the groove may be felt through the anterior fibres of the deltoid which overlies it; in muscular persons not so readily.

(2.) *Recognition of the tendon itself.* Of this I was by no means positive, it was so uncertain that I do not attach any weight to this symptom, which was of but doubtful value.

(3.) *Inward rotation of the arm.*

(4.) *A slight depression under the tip of the acromion; a prominence of the shoulder in front; and a flattening behind.*

(5.) *Diminution in the vertical circumference of the shoulder.* That this existed even during the period of swelling was very significant.

(6.) *Shortening of the arm as measured from the tip of the acromion to the external condyle.* This should, of course, in the absence of symptoms of fracture, be referred to the same cause.

(7.) *Elevation of shoulder, tilting up of acromion, and elongation and narrowing of axilla when the arm was carried upward.* This was also due to the elevation of the humerus.

(8.) *The peculiar depression [situated over the bicipital groove.* Unless the "depression in the deltoid muscle" described by Cowper, referred to a similar appearance, I can find no mention of any such exact phenomenon in surgical writings, either in connection with this or any other injury of the shoulder-joint.

(9.) *The line of ecchymosis following and strictly limited to the course of the biceps muscle.* This was most marked and characteristic, appearing only some days after the injury, and slowly gravitating down the arm in the line of the sheath of the muscle. It might occur, of course, in a fracture between the tuberosities extending into the bicipital groove, or it might follow a rupture of the tendon.

(10.) *A creak or "squeak," heard distinctly on carrying the elbow away from the side.*

(11.) *Flexion of the forearm on the arm was painful, the pain being sharp, lancinating, and felt at the front of the shoulder; flexion during supination was much more painful than flexion during pronation.*

(12.) *When extension of the forearm was attempted, a tense line along the edge of the biceps could be both felt and seen.* The cause of this is obvious.

(13.) *The pain felt over the joint was also felt along the line of the biceps as far as its insertion, and the patient still has a "drawing" sensation over that region.*

(14.) *The arm was preternaturally mobile for some time after the accident.* The support of the tendon being withdrawn, this was to be expected. It is important, however, to note that at no time was there any approach to ankylosis.

(15.) *The position of the patient after the accident.* This was markedly different from that seen after fracture of the clavicle, dislocation of the humerus, etc.

(16.) *The character of the force producing the difficulty.* This was peculiar in the fact that the front part of the shoulder struck first, the height of the piazza protecting the head from injury.

It is possible that the case which I have thus related may be susceptible of some other interpretation; it is not one about which it would be judicious to dogmatize; surgical experience is amply convincing of the inevitable uncertainty which hangs about changes occurring beneath the skin, and especially in the neighborhood of joints; surgical literature shows, and very aptly in this particular instance, that phenomena which at one time or to one mind seem susceptible of but one interpretation, at another period or to other observers assume a widely different aspect. Yet the symptoms in this case, taken as a group, and viewed from the theory that an uncomplicated luxation of the tendon of the long head of the biceps took place, certainly seem sufficiently consistent with one another and with the facts of anatomy and physiology, to justify me in placing them in this shape before the profession.

COMPOUND ARTICULAR FRACTURE.—STIMSON.

In a paper read before the *New York Surgical Society*, Nov., 1888, Dr. Lewis A. Stimson reported three cases of fracture, with the object of drawing attention not to those extensive injuries, in which the question lies between excision and amputation, but to those lesser ones, in which, the injury to the bone and soft parts being comparatively slight, the main feature is the implication of the joint, and the therapeutical problem is how best to avoid dangerous suppuration within it.

In his comments on these cases Dr. Stimson concludes with the following statement. "Of these three cases, the one that did best was the one that was least interfered with (it was also that in which the injury was least, but the difference in this respect was not great enough, I think, to account for the difference in the results); and I find in this fact, and in the fundamental success obtained in all, ground for the belief that confidence in modern methods of treating wounds should incline the surgeon rather toward absolute conservatism than toward operative interference; that in cleanliness, drainage and rest, we have agents efficient in themselves to avert inflammation of the joint, or failing that, to keep the inflammation within such limits that the risks of an operation, if it should become necessary, are not materially increased; that the safeguards now possessed against the occur-

rence of formidable complications of wounds should give confidence to expect the comfortable healing of wounds accidentally inflicted, rather than stimulate to the voluntary creation of new ones; and that the broad rules of treatment such as those under consideration should be to avoid excision except when it is clearly indicated by the extent of the injury, the difficulty of establishing drainage, or by an economical reason arising from the function of the joint involved and the social condition of the patient that may make mobility, even if combined with some insecurity, preferable to ankylosis."

RESECTION OF THE KNEE.

The following is from the *Am. Jour. Med. Sciences*, January, 1884: One of the most important contributions to practical surgery during the present year is an original memoir by Professor Ollier on resection of the knee, giving the results obtained from this operation in the surgical clinique of Lyons during the year 1882.

This memoir concludes with the following summary: 1. Antiseptic dressings have completely changed the indications and prognosis of resection of the knee. As formerly it was accounted wise and prudent to reject this operation, or at least to limit its indications in hospital practice, so now it would be considered unreasonable to continue to amputate the thigh in cases where resection is applicable. 2. In young subjects, on account of the dangers of resection with regard to ulterior lengthening of the bone, it is still necessary to insist on a methodical expectant treatment in suppuration of the knee, and on the employment of such relatively simple means as arthrotomy, articular scraping, drainage, etc. The surgeon might have recourse in the place to these means at any age, but he should always prefer resection to amputation, except in dealing with severe forms of tubercular arthritis, for which the latter is the proper operation. 3. The gravity of resection of the knee is not greater at the present day than that of amputation through the thigh. 4. Endeavor should always be made to obtain osseous ankylosis after resection of the knee; but it is necessary in this question to try to insure a strong articulation, in case, for some reason or other, ankylosis might fail. 5. The subperiosteal method allows the surgeon to attain this result. The sawn surfaces of the bones are thus left surrounded by abundant ossifiable tissue; and in cases where osseous union does not result, a complete ligamentomuscular girdle is preserved around the new joint. 6. From the scarcity of the observations that have hitherto been recorded, it is yet impossible to estimate the value of resection of the knee in military surgery. 7. In resection, a transverse incision is recommended together with two lateral vertical incisions. On each side of the joint, far back and near the posterior margins of the condyles, a deep vertical incision is made for the purpose of drainage. Preserve the lateral ligaments. 8. In cases of chronic intra-articular suppuration, it is usually found necessary to remove the patella, its anterior covering of periosteum being preserved. 9. In the operative treatment of comminuted fracture of the articular extremities of the bones, a longitudinal incision is to be preferred to transverse incisions. 10. In osseous ankylosis of the knee, supracondyloid osteoclasia should be the method of election. This operation is especially applicable in cases of ankylosis of traumatic or rheumatic origin, when flexion does not reach or exceed a right angle, and when there are not any deep-seated and multiple cicatricial bands in the popliteal spaces. 11. Whenever there is a risk of lacerating any of the popliteal vessels or nerves inclosed in cicatricial tissue, it would be better to have recourse to supracondyloid osteotomy or to resection. 12. Resection of the condyloid expansions is the only operation to be proposed when signs of inflammation of bone are presented. In a case of flexion of the leg passing beyond a right angle, the surgeon must remove not merely a wedge shaped bone, but must take away some thickness of the posterior portion of the femur. This is the sole means of bringing the surfaces of section into contact, without exciting painful tension in popliteal region and interfering with the circulation of the limb. —*London Med. Record*, Oct. 15, 1883.

ON THE COMPARATIVE VALUE OF AMPUTATIONS AND EXCISIONS OF JOINTS, IN VIEW OF THE STATISTICS AND RESULTS.

By E. E. HOUGHTON, M. D., of Indianapolis.

Dr. HOUGHTON, in a paper read before the Tri-State Medical Society (*Weekly Med. Review*, Sept. 29, 1883), reached the following conclusions:—

1. No excision should be made in aged persons.
2. No excision should be made in very young persons.
3. No excision should be made if there is even a suspicion, much less evidence, of the existence of phthisis or other constitutional disease.
4. No excision should be made in cases where it is the hand or foot and limb to be saved, and which is of more than common value to the patient; hence the elbow and knee-joints may be excised under proper considerations.
5. The shoulder and hip-joints may be excised when it is a greater mutilation and a greater loss to lose the limb by amputation, and the patient has equally good chances for recovery after the excision as after the amputation, which is rarely possible.
6. Excisions are not to be made in cases of malignant disease of the articular ends of bones or other parts of bone.
7. Excisions should not be made for acute abscess in the knee-joint, and most likely not in any case of acute abscess.
8. Excision of joints generally are seven times more fatal than amputations under the same circumstances and in the same class of cases.
9. No surgeon is justified in subjecting his patient to excision, in view of all the facts made known, unless there are good and substantial reasons for assuming the greater risks—by seven times, for his patient; and the extraneous circumstances which must overbalance in favor of an excision with the seven times greater mortality against it, is a moral and surgical responsibility which we think to be anything but conservative.

THE QUESTION OF AMPUTATING AFTER SEVERE INJURIES TO THE EXTREMITIES.

By LEVIN J. WOOLLEX, M. D., Vevay, Indiana.

(From the *American Practitioner*, November, 1883.) The propriety of amputating after severe injuries to the extremities, often a question fraught with responsibility and embarrassment to experienced surgeons, becomes intensely so to the practitioner whose work lies in small towns and in the country. In addition to consulting such works on the subject as were in my reach, and which, I may add, did not afford me just what I was in search of, I addressed a letter to my friend, Prof. W. W. Dawson, M. D., of Cincinnati, and in answer received from that accomplished surgeon the following words:

Principles which should govern in the treatment of injured limbs. In the light of present experience the injury must be great if a *primary* amputation is justifiable. *Secondary* amputation yield results equal almost, if not quite, to primary ones. This being the case, you are justified in making an effort to save the limb. Amputation should be resorted to when—

1. Where the soft parts are so devitalized that restoration may not be expected, as in railroad injuries or severe gunshot wounds.
2. Where the main artery supplying the limb is divided and the soft parts are badly injured, the limb should be removed. This rule does not apply in mere division of the artery; for then it may be ligated at both ends and the limb saved, if the soft parts are not greatly damaged. The division of a large vein or nerve does not place the limb in jeopardy, as some authorities suggest.
3. The mere exposure of a large joint does not justify amputation. It is called for only when the injury to the joint is associated with a devitalized condition of the associated tissues.

4. No amount of comminution of bone alone should lead to the sacrifice of a limb; for by the move-immovable dressing the parts can be so securely held in position, can be kept so quiet, that repair may always be expected.

5. When amputation is demanded, Esmarch's bandage should always be used. It economizes blood, and hence prevents shock. If the operation must be made immediately, the elastic apparatus, by saving blood, prevents the increase of the shock.

By the Bavarian dressing we can give such rest and support that we can preserve limbs that with the ordinary appliances would be lost. With it we are justified in making an effort to save a limb, that with splints would be regarded as reckless.

The whole question may turn upon the mortality following the secondary and primary amputations, and the ability of the closely-fitting and easily-adjusted apparatus to save limbs—*badly, fearfully* injured ones—limbs that were formerly regarded as hopelessly damaged.

In my lectures I prefer the division of amputation into (1) immediate, (2) primary, (3) intermediate, (4) secondary. By the first is meant an amputation performed at once. By the second, an amputation performed within forty-eight hours after receipt of injury, before inflammation has become established. The third or intermediate is between this and the establishment of suppuration. The fourth, or secondary amputation, is one performed after the active symptoms have subsided. This is hardly before the end of seven days. At this time pus is freely proliferated, and tension, except where pus is confined, is at an end.

The intermediate operation is a dangerous one, for it is made in the face of a high grade of action, and should never be resorted to. Immediate operations are often unsafe; the surgeon adds to the shock of the accident the shock of the operation. He should wait for reaction, for he has forty-eight hours of safety, or, rather, he will not be prohibited by inflammation before the end of that period.

Wo unto the man who is operated upon in the intermediate period!

With positive rest and graduated but regular compression, such as we can get by the movable plaster-of-Paris dressing, we are destined to enter upon a new career, and our achievements will be marvelous as compared with the past, when the fragments were hourly disturbed, and bandages acted as cords to strangle.

MR. BRODHURST'S VIEW OF THE CAUSE OF ROTATION IN LATERAL CURVATURE OF THE SPINE.

By A. B. JUDSON, M. D., Orthopædic Surgeon to the Out-Patient Department of the New York Hospital.

We abstract the following from the *Medical Record*, Jan. 19, 1884:—In the third edition of his valuable work on curvatures of the spine Mr. Brodhurst has advanced a theory of the cause of rotation which fails to throw additional light on this feature of lateral curvature. The following passage presents his view:

"So soon as spinal curvature commences the axis of the trunk is changed, and the column is no longer poised in the vertical line on the heads of the thigh-bones. The superincumbent weight being no longer transmitted in the normal axis of the trunk, but falling on the side of the concavity of the primary curve, unequal pressure causes first compression of the intervertebral substances which enter into the curve. After a variable time this compressed condition of the intervertebral substance continues more or less, and is not removed by ordinary recumbency. The body of the vertebra then begins to move laterally, through the pressure on the inner, or concave side of the curve, and in consequence of pressure being removed from the convexity. And through this compression on the side of the concavity, a gliding, or *rotating* (lateral) movement of the bodies with the intervertebral substances is established. This compression acts first on the intervertebral substance, and secondly on the body of the vertebra; and causes thinning and lateral dia-

placement, or *rotation* (curvature). *Rotation* (curvature), then, is immediately due to abnormally increased pressure on the concave side of the spinal curve, and to removal of pressure from the convexity."

I have ventured to italicize certain words in the above passage and to insert other words parenthetically, in order to show that by omitting the words in italics and substituting those in parenthesis the passages becomes an exposition of the mechanics of simple curvature without rotation. It thus appears that the above explanation of the cause of rotation is essentially an explanation of the mechanics of lateral curvature with the question of rotation omitted.

If, however, to the above passage, altered as indicated, we append the statement that the motion of the bodies of the vertebra is greater than that of the spinous processes, because the processes are embarrassed in the parietes while the bodies are further displaced laterally in the cavity of the trunk, this movement constituting rotation, as proposed by me in 1876, we have at once a statement of the mechanics of lateral curvature and an exposition of rotation on grounds which are correct and scientific.

Before my attention was called to the fact by Mr. E. Noble Smith, I was not aware that this method of explaining the cause of rotation had been employed by Mr. Rogers-Harrison in 1842.

In the passage above quoted from his book Mr. Rogers-Harrison gave the true explanation of the cause of rotation in lateral curvature of the spine, an explanation which cancels and destroys all the other theories which have been proposed.

It is well to separate the question of the cause of rotation from the more important and difficult question, the cause of lateral curvature. The logical and practical view of these questions is that in which rotation is considered as a feature of the ordinary forms of lateral curvature, whatever may be their cause. That the two questions are clearly distinct is obvious from the fact that rotation occurs in health as well as in disease. It is not only pathological, an incident of disease and deformity, but also physiological, a feature of the normal lateral curving of the spine. Mr. Brodhurst has observed and well described the appearance of rotation in health, as it varies from right to left with each step of locomotion, together with the lateral undulating movement of the spine from the pelvis to the head. He adds that these phenomena may be studied with advantage in young acrobats, in whom exaggerated positions of the trunk and limbs will display these movements of the vertebrae.

LATERAL SPINAL CURVATURE.

By GEO. HALLAY, M. D., Kansas City Medical College.

We take the following from the *Canada Lancet*, Feb. 1884:—A few days ago I was consulted in regard to a case where there was very decided lateral curvature, that had existed from childhood, and was evidently the result of an infantile paralysis, with which she was afflicted when quite a child. It was apparently getting worse since she had been confined to a school-room, and taxed with severe studies; hence the consultation. Now what will you do in such cases? What are the indications? If you follow the routine practice, you will proceed to adjust the regulation plaster-of-Paris jacket. Now why will you *not* put it on in some others? for it is, without doubt, a most excellent method of treating a certain class of these affections. If you will for a few moments look at the etiology of this case, you will have no difficulty in answering the question intelligently. This case has no diseased bone to repair, no absorbed intervertebral substance to be restored, no inflammatory process to arrest by stopping the irritating cause. In another class of cases this practice would be highly proper, but what would we get here? Only pressure on the already paralyzed or greatly weakened muscles; whereas, what they do require is rest and restoration, by friction, *massage*, and well regulated exercise. I know of no exercise so good in this deformity as that on the horizontal turning-bar. Not for too long a time at first, not to

the extent of tiring—wearing out what little strength your patient has; but enough to fully empty the vessels of the blood that is sluggishly circulating in them, as well as the lymph channels. Then let them rest in the recumbent position. Shampooing the muscles with a warm dry flannel cloth will also promote the circulation, and at the same time give tone to the muscular system.

Your jacket, while it held the skeleton in its proper place, would not only have done nothing toward restoring the muscular disorder, but would really have made it worse, by depriving the muscles of their exercise, and impairing their nutrition by pressure, while they were really the parts that required treatment, nourishing and resting.

Now in this case we shall order more out-door exercise, plenty of good, rich food, and last, but not least, *rest* on a good hair mattress; with *massage* of those muscles that are paralyzed or partially so. I don't pretend to know why cod-liver oil does so much good in this class of cases; but I know it does. You will frequently be told, on making such a suggestion, that it is impossible for them to take it; that it always disorders their stomach; that they can't bear the taste of that "horrid stuff." I tell you, gentlemen, after a good many years of experience, that cod-liver oil can *always* be tolerated provided you do your whole duty as a physician. First then, see that you have a good, pure, and sweet oil, and that it is cod-liver oil; for it is not always cod-liver oil that is sold as such. Nor is all that is cod-liver oil fit to put in your patient's stomach. Now if your patient can take it straight, with a tablespoonful of whisky after it—all right. If the stomach revolts at it or rejects it, you may have to make an emulsion of it with pancreatin, or a pancreatic emulsion, reducing it with the oil till it is of sufficient consistence, and then add some syrup—syrup of hypophosphites if you prefer—and you have a mixture that almost any stomach will tolerate.

Did this case present evidence of organic changes going on in the spinal column, I should at once proceed to adjust some suitable external means of support—the plaster jacket, the felt jacket, or some other means of allowing the bones and cartilages to assume their normal condition, if that were still possible; and if they had undergone such structural change as to preclude the hope of restoration, to at least secure ankylosis in the best possible position.—*Kas. City Med. Record.*

ANGEL-WING DEFORMITY.—PARALYSIS OF THE SERRATUS MAGNUS AND RHOMBOIDS.

By THOS. R. DUFUR, M.D., etc., Kingston, Ont.

From the *Canada Lancet*, Feb., 1884. This is a peculiar affection which, on account of its rarity, is more of a curiosity than otherwise. In the course of twenty-five years' practice I have met with three cases of it, and all of these have occurred within the last seven years.

The disease usually commences by pains in the shoulder and upper part of the arm, at the root of the neck, above the scapula or immediately beneath it; the pains may be of an intense darting neuralgic character, or dull and aching so as to produce a tired sensation rather than acute pain. Neuralgic pain may co-exist in other parts of the body. Loss of power in the parts and inability to sustain prolonged exertion with the arm and shoulder, gradually make their appearance. When the patient's arms are held loosely by his or her side, very little deviation from the normal can be seen. By close inspection, however, the inferior angle of the scapula on the affected side may be found somewhat nearer to the mesial line than the other one, the vertebral border traced from below upward thus assuming a direction more outward than natural, and the lower angle of the scapula may also be a little too far from the chest-wall. When the patient attempts to raise the arm, all these deviations are exaggerated and can be readily and distinctly seen. The arm can be raised voluntarily only to the horizontal position, and while this is being done the vertebral border of the scapula rotates outward in such a

manner that the anterior surface of the bone forms nearly a right angle with the wall of the chest. This leaves a very large and deep hollow between the thorax and the scapula, and thus exhibits that peculiar outstanding condition of its posterior border which has given this deformity the distinctive name of "angel-wing." Faradic reaction is lost and galvanic excitability greatly diminished in the paralyzed muscles. In long standing cases, atrophy of the muscles supervenes. This disease may be from two weeks to two months from the beginning of the pains till loss of power in the parts and the full characteristic symptoms manifest themselves, and it has an indefinite duration.

This disease usually occurs in weakly young persons, and may result from injury or overwork (and hence is more common in males and on the right side of the body), from direct injuries to the nerves, from falls, blows, wounds, carrying heavy weights upon the shoulder, from rheumatic influences contracted by sitting in draughts, or exposure to wet; and even the syphilitic poison has been suspected as a cause.

Putzel gives this disease the pathological name of Paralysis of the Serratus Magnus.

Gross inclines to the view that the chief trouble is paralysis of the rhomboid muscles; the writer in "Holmes' System" that the serratus magnus is implicated as well.

My own opinion is, that the serratus magnus and the rhomboidei muscles must all be more or less paralyzed, to produce the affection in its fully developed state.

A few words with respect to the treatment of this disease may not be out of place. As the subjects of it are generally weakly and ill-nourished of over-worked young persons, the first great object is to improve the general condition of the patient. Fresh air, gentle exercise, good diet, with the use of the shower bath or salt-water bathing, friction over the body, chalybeate tonics, nux-vomica, and such other remedies as adapt themselves to the circumstances of the patient. Putzel, from whose work I have already quoted, recommends electricity as the great means of cure. One electrode should be placed over the roots of the affected nerves (on the neck, above the clavicle) and the other over their distribution, as in the axilla, along the origins of the serratus magnus, or behind the chest, between it and the outstanding scapula. Counter-irritation, if there is pain, and the use of morphia when urgently demanded. Many other means will readily suggest themselves to the attendant physician, once he is fully satisfied as to the pathology and etiology of the disease.

POTT'S DISEASE.—THE MECHANICAL TREATMENT OF DORSAL CARIES WITH GREAT DEFORMITY.

By CHARLES E. WEBSTER, M.D., Chicago.

From the *Journ. Am. Med. Ass'n*, Jan. 1884. In the treatment of such a case we are compelled to consider the general condition of the patient; the diminished capacity of the chest; the local irritation by the ribs, by lateral motion, and by the superincumbent weight; lastly, the resulting deformity.

For the reduction of the deformity several methods are employed. But, in general, it may be stated, that any treatment of the deformity as such is bad surgery.

To summarize:—The general condition of the patient is such that exercise is necessary. The deformity is such that constriction of the chest is inadmissible. Irritation by the motion of the ribs is unavoidable. A posterior splint may be harmful, and is unnecessary if the two ends of the spine can be kept in a fixed relation by apparatus that removes the weight from the diseased bones. From these premises I deduce the following proposition:—

In advanced cases of Pott's disease, with great deformity of the thorax, support of the weight of the parts superior to the disease, with slight extension, is sufficient treatment, while other interference may be dangerous. In view of this proposition, I have devised, constructed, and by several

years of trial practically demonstrated the usefulness of an apparatus, which consists of the parts:—(c) The pelvic base carrying on either side crutches to support the arms and a rod at the back to support the head. (b) The neck piece permitting the lateral motion of the head. (a) The head piece permitting the nodding motion of the head.

The chief advantage of this apparatus consists in its perfect adaptability to a class of cases hitherto the opprobrium of the profession. With slight modification it might be made to meet the requirements of other classes of cases now treated by other methods.

The motions of the head are of great convenience to the patient, and can be permitted in every case, except in disease of the cervical region. In fact, the nodding motion might be permitted in every case, except in disease of the occipito-atloid articulation. The parts in contact with the body are perfectly fitting and quite rigid, thus reducing the local irritation to the minimum.

I have diligently searched the literature of the subject, and as far as I can learn, the support of the spine by suspension of the head and arms from apparatus resting on the pelvis without constriction of the trunk, the head supporter permitting the free nodding motion of the head on the axis of the occipital condyles, as well as the perfectly well-fitting pelvic base fully open in front, are new and original inventions.

EXTIRPATION OF THE SPLEEN.

By A. N. BLODGETT M.D., Boston.

This writer, in the *Jour. Am. Med. Ass'n.* for January, 1884, gives in a translation the following summary of all known cases of surgical interference in the way of excision or amputation of the whole or any part of the spleen.

(a.) Splenotomy consequent to injury or hernia of the spleen. We have collected the details of seventeen observations detailed in the monographs of Magdelain, Simon and Zesas.

These observations relate to partial and not to complete extirpations of the organ. In *all* these cases the result was a cure, and in no case were there subsequent troubles which could be attributed to a loss of a portion more or less considerable of this viscus.

(b.) Splenotomy in cases of tumors of the organ.

The numerous physiological experiments by Malpighi (1669) Dobson (1830), have demonstrated that the spleen is an organ which is not indispensable to life. More recently Vulpian (1855) extirpated the spleen from a dog, which lived for six years.

Credé (Langenbeck, Arch., 1882) has collected 30 cases of extirpation of the spleen, as the result of errors of diagnosis and on account of disease of the organ itself. The list of cases is given.

From it we find that extirpation of the spleen has resulted fatally in every case of leucocythæmia. It is no more rational to remove a leucocythæmic spleen, than it would be to remove glands which were enlarged as the result of infection from some malignant growth, without extirpating the growth.

Leaving out case 1, which claims only historic interest, we learn from the remaining 29 cases that extirpation of the spleen has been successfully performed 6 times—twice for cysts of the spleen, and four times in cases of hypertrophy.

Conclusions.—When, in consequence of a wound of this region, there is hernia of the spleen, the surgeon would be justified in excising the protruding portion. All the observations relating to this condition indicate the benignity of this procedure, and its uniform termination in recovery.

In disease of the spleen, its extirpation is contra-indicated in the case of cancer or of symptomatic hypertrophy, either in relation to an affection of the liver or to an *intoxication poitueenne*. The results of surgical interference have been universally deplorable.

Cysts of the spleen are curable by means of treatment more easy or less dangerous than extirpation.

In cases of wandering spleen the operation might be indicated if the symptoms were alarming. *En résumé*, it may be affirmed that splenotomy is practicable in the human subject without altering the condition of the health. This operation is indicated only very exceptionally. It is difficult to obtain a fortunate result, the chances being in favor of a rapid termination in death, due to hæmorrhage or to shock from the operation.

A SIMPLE OPERATION FOR FACIAL NEURALGIA.

Dr. J. F. HEUSTIS thus writes in the *Med. News*, December 8, 1888. A. E. L., an old gentleman, past seventy, of fine constitution and very healthy in every respect, except being a sufferer from tic-douloureux, has consulted me several times in the last year for his complaint, and has taken the various remedies likely to benefit him, with very little relief. As he continued to suffer more and more, I advised him to let me operate on him as the only means of relief.

He was so weak at the time of operation, that it was a very important matter at his advanced age to make the operation as simple as possible, consistently with the hope of permanent relief. Therefore, discarding all special methods of operating I merely cut down upon the infra-orbital foramen, and with a fine steel drill, such as dentist's use, improvised of piano wire, drilled out the nerve in its entire length, as far back as the spheno-maxillary fissure. The immediate effect of the operation was to abolish all sensation in the previously sensitive parts, and to enable him to use his jaws without suffering the darting pains he formerly had. And not only was the sensitiveness of the face relieved, but also that of the side of the head, showing that the trouble was in the distribution of the infra-orbital nerve, and that the affection of the branches of the supra-orbital was a reflex one. Barring some swelling of the face, he had no trouble afterward. The wound soon healed, and he has been able to expose himself to the air, and eat with impunity, and now, although nearly two months have elapsed, he remains free from pain and is enjoying excellent health.

INGROWING NAILS.

The following practical hints on the management of ingrowing nails are from the *Journal of Cutaneous Diseases*:

The first indication is to put on a sock of moderate size and to remain quiet. Afterward the nail is scraped on the affected side till it is sufficiently thin: then it is to be seized with a delicate forceps, raising it in a sense inversely to its natural curvature. This having been done, a small lamina of lead of a few millimeters' thickness is to be inserted beneath the nail, and, after folding it over the toe, it is to be fastened there with a strip of plaster. In this manner, the granulations being no longer in contact with the margin of the nail, the pain ceases, and the sore heals more or less rapidly; during the whole of which time the apparatus should be frequently inspected, so that the lamina of lead may not become displaced. Besides this, it is necessary to scrape the nail every two or three days, so as to keep it thin and flexible, until the skin returns to its natural state, and can resist the pressure of the nail, and then the lead is removed. Hebra treats ingrowing nail in the following manner: Cut some flakes of lint of the length of the lateral groove of the nail, or a little longer. The lint is to be placed on the nail, parallel to its groove; then with a flat probe introduce the lint, thread by thread, between the flesh and nail. Thus the parts are separated, with a little cushion of lint lying between. The sulcus is then to be filled with pledgets of lint, and finally long narrow strips of adhesive plaster are to be applied, always from above the inflamed sulcus downward, in such manner that the latter is still farther removed from the margin of the nail. With such a dressing ap-

plied with sufficient care, there is no pain whatever; and the patient can in a short time put on his ordinary stocking, and walk without trouble. After twenty-four hours the strips of adhesive plaster are to be removed, being previously softened in a bath of tepid water. This dressing is to be repeated daily; and in from two to four weeks it will be found that the toe is entirely well.—*Medical Age*, Feb. 11, 1884.

CLUB-FOOT ; SIMPLE MEASURES FOR ITS EARLY RELIEF.

By DR FORREST WILLARD, M.D., Lecturer on Orthopedic Surgery in the University of Pennsylvania.

(From the Transactions of the Medical Society of Pennsylvania). Simple treatment can be so readily and easily applied by every one that it should be instituted at the very hour of birth, and should be continuously employed until a cure is effected, either with or without tenotomy. Any one taking a case of moderate talipes in hand will perceive that slight traction will greatly improve its condition, and he will also note that if hand-pressure could be continuously applied the deformity would be permanently cured. As this is impossible, however, we must approximate this action as nearly as possible by instructing the mother or nurse to stretch every contracted tissue, whether fascial, muscular, or ligamentous, at least twenty times a day, and to the full limit of the child's endurance. At the same time the weakened muscles must be stimulated to activity by the use of massage; friction, electricity, etc. Intelligent manipulation is safe, easy, and effectual, and all forms of mechanical assistance must be so contrived that the considerations mentioned can be secured. After many experiments I have been able to carry out this idea in the most simple manner, without the use of rigid braces, with no danger of sloughs or excoriations, and without interfering with the normal and healthful action of the muscles. Furthermore, the apparatus acts continuously during the relaxation of sleep; is easily removable for massage, friction, etc.; can be worn inside an ordinary shoe; does not absorb urine or feces, and above all permits the mother to rectify the deformity by hand-pressure, without removal of apparatus, whenever the child is in her lap.

The cost is but a trifle, as it consists only of two strips of "printer's blanket, two-ply" (gum with cloth facing, or ordinary gum blanket will answer), two to three inches in width, and of length as required, together with a gum band such as is used for inclosing packages of papers. A shoemaker will insert eyelets or lace-hooks in these strips in five minutes, and one is then laced upon the leg below the knee with the gum face inward, the other around the anterior part of the foot, if the case be one of varus. Between the two is stretched the gum band, the strength depending upon the age of the infant. Sizes, $0\frac{1}{4}$, $00\frac{1}{4}$, $000\frac{1}{4}$, 00001 , or five inch will answer. The advantage of girths of printer's blanket over cloth or wet sole-leather similarly prepared consists in the fact that at the temperature of the body they become slightly adhesive and do not readily slip. Should the encircling bands show this tendency, however, sheet gutta-percha softened in hot water, or "gum soling," "medium grade," can be used for cintures, which will effectually check such turning. All of these articles can be obtained at a trifling cost by writing to the Goodyear or National Rubber Company stores in any city. The adhesive property of the gum prevents the necessity of lacing tightly, and thus interference with circulation is avoided, while frequent washing of skin and apparatus will prevent excoriation. In infants eyelets are better than projecting lace-hooks, and the gum traction band can be secured by lacing; a slit cut in the shoe allows exit for this band, yet is very inconspicuous. The pulling power can be increased as rapidly as the strengthening advances; and by the time that the child is able to walk it will be discovered, in moderate degree of deformity, that tenotomy, at first thought inevitable, will be unnecessary; and even if required in severe cases, the manipulations and stretching will have so assisted the operation that relapses will be far less frequent.—*American Practitioner*, Oct., 1883.

ANTISEPTICS.

In some researches on the aseptic power of certain substances with reference to bacteria M. Miguel publishes a table in which is given the weight of each substance required to render imputrescible a litre of beef soup (bouillon de bœuf).

We give a portion of the table in the order in which they are published:—

	Grammes.
Biniodide of mercury.....	0.025
Bichloride of mercury.....	0.07
Nitrate of silver.....	0.08
Iodine.....	0.25
Chlorine gas.....	0.25
Bromine.....	0.60
Sulphate of copper.....	0.90
Salicylic acid.....	1
Benzoic acid.....	1.10
Mineral acids.....	2 to 8
Essence of bitter almonds.....	8.20
Carbolic acid.....	8.20
Permanganate of potash.....	3.50
Arsenious acid.....	6.00
Hydrate of chloral.....	9.50
Salicylate of soda.....	10
Sulphate of iron.....	11
Borax.....	70
Iodide of potassium.....	140
Glycerine.....	225
Hyposulphite of soda.....	275

To prevent the dispersion of microbes from the sick he advises treating the dejections of patients with the following solution:—

Sulphate of copper.....	20 grammes.
Sulphuric acid (66°).....	40 grammes.
Water.....	1000 grammes.

Also the bathing of the bodies of the patients with a solution of iodine 1 part to 1,000, or of bichloride of mercury 1 to 5,000.—*Boston Med. and Surg. Journal*, November 8, 1883.

ANTISEPTIC SURGERY AT BELLEVUE HOSPITAL, NEW YORK.

By ROBERT T. MORRIS, M. D., New York.

The following is from the *Medical Record*, Jan. 26, 1884:—Various methods and different kinds of antiseptic dressings are employed in the different divisions, but the commonest antiseptic solutions are of carbolic acid, bichloride of mercury, salicylic and boracic acids. Iodoform is in constant use. Carbolyzed gauze, borated cotton, or prepared peat, form the larger part of the bulky dressings. Ligatures are carefully prepared before being used, and so are drainage-tubes and protection silk. The solutions of carbolic acid are aqueous ones, and in the proportions of one part to twenty, one part to thirty, or one part to forty, in water. Bichloride of mercury is diluted with from one thousand to five thousand parts of water. Salicylic and boracic acids are usually combined in the proportion of one part of the former to six parts of the latter, and these are dissolved in five hundred parts of water. In some of the wards the orderlies and nurses are given written directions, and the following is a copy of these:

"I. No one shall touch a wound, or the vicinity of a wound, unless his hands are thoroughly carbolyzed.

"II. No material shall be allowed to touch a wound, or the vicinity of a wound unless it has been antiseptically prepared.

"III. No sponge shall be employed about a wound unless the sponge has been antiseptically prepared.

"IV. No prepared sponge shall be used after it has come in contact with any substance which has not been rendered aseptic.

"V. Sponges are not to be touched by any person whose hands are not carbolized.

"VI. Sponges employed are not to be used at more than one operation.

"VII. During an operation sponges that are bloody are to be washed in a solution of carbolic acid (1 to 40), and by a person whose hands are carbolized.

"VIII. Protective silk and rubber drainage-tubes are to be kept in bottles well filled with carbolic acid solution (1 to 40) and these articles are to be removed by the senior or junior assistants only.

"IX. All material for dressings is to be kept in a perfectly clean place, and the material shall be handled only by carbolized hands.

"X. Dressings are to be made up by such persons only as have carbolized hands.

"XI. Dressings are to be prepared on clean towels and must not touch surrounding objects.

"XII. Instruments are to be kept in carbolic acid solution during an operation, and are to be handled by aseptic hands only."

ANTISEPTIC DRESSINGS AS THEY ARE USED AT THE NEW YORK HOSPITAL.

By ROBERT F. WEIR, M. D., Surgeon to the New York and Bellevue Hospitals.

In a paper published in the *New York Medical Journal*, Jan. 19, 1884, this writer says:

The principles embodied in the dressings remain the same as when set forth by Sir Joseph Lister, and in the treatment of wounds the aim is to place the parts in such a position as to secure the best drainage and keep them at rest (avoiding frequent renewals of the dressing). To accomplish the last, substances which will prevent decomposition must be used, for this is either caused by micro-organisms or inevitably associated with the process. Until recently this has been done by the use of carbolic acid and iodoform. A grave objection to carbolized gauze or jute, etc., is the fact that, however prepared, the carbolic acid evaporates, and leaves the material, if not very fresh, an unreliable antiseptic dressing. Carbolic acid and also iodoform are liable to produce toxic effects. About two years ago Dr. Weir began to use the bichloride of mercury, which has displaced, to a very considerable extent at least, both of the above antiseptic drugs. It is kept in contact with wounds by means of gauze, cheese-cloth, or mull, impregnated with a solution, or by means of peat, first used at Kiel, and also jute, which fell into disuse because carbolic acid evaporated from it so rapidly. The bichloride solution used varies in strength from 1 to 1,000 parts of water to 1 to 5,000. One great advantage which it has over carbolic acid is durability, and a week ago Dr. Weir would have said that it was a very stable chemical. But investigation proved that it is a rather unstable compound, that calomel forms at the expense of the bichloride, both in the solution and in the dressings (gauze, jute, etc.) To counteract this Prof. Gibbs, of Harvard, had suggested the addition to the solution of a small quantity of common salt, say 5 parts to 1,000.

At the time of the operation a solution of bichloride, 1 to 1,000, sometimes 1 to 2,000 of water, is allowed to trickle nearly continuously over the incision, the parts having previously been thoroughly washed with soap and water and afterward with a solution of turpentine in alcohol, of the strength of two drachms to the pint. The parts should be washed the day before, as well as on the morning of the operation.

The vessels are ligated with catgut, prepared by placing the material in bichloride solution, 1 part to 100 of water, for ten to fifteen hours, and afterward wound on bobbins and kept in absolute alcohol. The wound is closed

with the continuous suture of catgut, leaving an opening at each end for the drainage-tube, that of black rubber being preferred. Cleanse the wound by injecting the drainage-tube until the solution comes out clear, then place a piece of sublimated gauze over the centre of the wound, over that other pieces, and over the whole a compress of several thicknesses secured in position by means of a bandage. The expectation is to have an amputation wound heal under one or two dressings.

The possibility of toxic absorption of the bichloride solution has led some to use a milder antiseptic during the operations, such as that suggested by Thiersch, of Leipsic, and composed of: B. Boric acid, 6 parts; salicylic acid, 1 part; water, 500 parts. This is allowed to flow over the wound during the operation, the final washing being made with the bichloride solution. Cleanliness on the part of the operator and the assistants, as well as the patient, and everything about him, is presupposed. Finally, absolute rest, so far as possible, is enjoined, and this is secured (in cases of amputation, etc.) by means of the tin splint enamelled.

To use a common expression. Does all this detail pay? He regarded it like discussing a self-evident proposition, but to show the value of antiseptic treatment a few figures were presented.

In conclusion, the author of the paper repeated the words which he had used on a former occasion: "The saving of life which is thus indicated, occurring as it now does, or ought to do, over the whole world, should entitle the name of Joseph Lister to outrank in medicine all of his century, not excepting the discoverer of anæsthesia."

ANTISEPTIC SURGERY.

By L. A. STIMSON, M.D., Surgeon to the Presbyterian and Bellevue Hospitals, New York.

In discussing Dr. Weir's paper on Antiseptic Dressings, read before the N. Y. Academy of Medicine, Dr. Stimson (*Medical Record*, Jan. 19, 1884), said there was more in antiseptic surgery than the mere antiseptic. It should be recognized that there are at least two distinct parts: the first deals with the cause of the complications, which the dressing are designed to prevent; the second with the properties, the extent of the various dressings, and the value of each in preventing those complications. For a man who believes that suppuration or fever occurring in the course of the repair of a surgical wound is always the result of the introduction of germs from without the question is a simple one. It is his aim to clean the wound with an efficient germicide, and to cover it with a dressing which will either filter out or destroy all other germs which may be brought to it. But for the man who thinks there may be some other cause; that these complications may arise through the perverted action of the elements of the body itself; that they may be the result of local disturbances of nutrition, of tension, mobility, change of temperature, lowered or perverted vitality—for this man the problem is a much more complex one. He uses antiseptics to purify his wound, his own hands and those of his assistants, to purify his patient and his instruments, but after he has done that, after he has thus protected his patient from the dangers arising from one source, he has to employ other measures to protect him from those arising from other sources. He must have drainage, rest, and pressure, as well as cleanliness, and does not feel safe even then. There is still the *unknown* in the individual himself, that hidden fatal cause, whose action he can neither foresee nor avert, and it comes not only to him but also to the believer in antiseptics, and frequently enough to make that absolute confidence in their power to avert danger which men have recently expressed seem inexplicable, and action based solely upon that confidence rash almost to the verge of criminality. There is a great deal more in antiseptic dressings than the antiseptic itself, and each has many different properties, and the same properties are possessed by several in varying degrees. The test of experience alone *along a single line* is not sufficient to decide the question between their respective merits.

Brilliant results and disastrous failures have followed each and every one, and no single man's experience has been found sufficient to cover all possible variations of disease and dressings.

Dr. Weir, in his interesting account of the dressings, had already pointed out one or two defects in the argument. The argument is that germs cause septicæmia, antiseptics destroy germs, the use of the antiseptic method has been followed by good results, and, therefore, the good results are due to the antiseptics and complications are due to the entrance of germs. For many years we used carbolic dressings and got good results; and then we heard that carbolic acid evaporates and that the dressings we had been using were not antiseptic. Bichloride of mercury was substituted, and again with good results. Now Dr. Weir tells us that the bichloride is untrustworthy, for it changes into calomel. All this time, too, we have been putting catgut ligatures down in the bottom of the wound, and now we know that the carbolized oil in which the catgut was prepared is not antiseptic, that the catgut was sometimes actually rotten, that it contained the very germs we wished to keep out.

Again, putrefaction has been regarded as one of the sources of the trouble. Now, take one of the dressings the use of which has been attended with good results, namely, peat. It was thought to be in itself antiseptic, and was used without previous purification, and it gave excellent results. At the present time it is usually moistened with a bichloride solution. To test its antiseptic properties Dr. Stimson had made a series of experiments; he had saturated peat with a sterilized putrescible liquid, and within forty-eight hours the liquid was swarming with bacteria, while the liquid of the "controlling" experiments was still clear. The peat itself is full of germs. No one questions its value as a dressing, but its value must be due to something else than its supposed antiseptic quality.

There are many things in antiseptic dressings besides the antiseptic, and he believed that the good results which have unquestionably followed the use of these dressings were due to these other properties quite as much as to the prevention of putrefaction.

While, therefore, he believed that the antiseptic method of treatment was exceedingly valuable, he also believed that the use of the antiseptic as a preventive of septicæmia, suppuration, or fever following operative wounds or injuries is a restricted and limited one. He believed that by its use we only protect our patients from the action of *specific poisonous germs*, and that to it we must add other elements in the dressing. Free drainage must be established and perfect rest must be secured, together with equable compression and temperature. With the application of these principles, to the details of which it was not necessary to refer, he believed the patient was placed under the most favorable conditions for a rapid recovery to ensue. He believed, therefore, in antiseptics to purify the patient, the surgeon, the assistants, and the instruments, and then drainage, compression, and rest must be secured.

A NEW THEORY ON THE ORIGIN OF CANCER.

Ever since the serious study of embryology began, the parts played by the time-honored layers of the germ of the embryo—the epiblast, mesoblast, and hypoblast—in the production of different systems of tissues have been looked upon by many as of an unalterable nature. And pathology has not been slow to take on the same principle of the exclusive origin of certain tissues from one lamina of the blastoderm. So it is that the epithelial origin of true cancer, so ably advocated by Waldeyer, is to-day the most prevalent view of the genesis of that disease. Nevertheless, the opinion that cancer cells may arise by a transformation of units derived from the mesoblast has had, and still has, some able supporters. A fresh adherent to the views of Cornil and Ranvier in regard to this has appeared in the person of M. C. Sappey (*Lancet*, November 3, 1888). The results of his latest researches, communicated to the Académie des Sciences, are brought forward to prove

that encephaloid cancer ought to be recognized as resulting from a profound alteration of the leucocytes of the blood. This alteration is regarded as being at first essentially local. But whilst passing the primary focus of the disease, the white corpuscles of the blood become transformed, and may take one of three directions. Some corpuscles migrate from the capillaries to the diseased focus, and there become the centre of the formation of a tumor which tends to increase without limit. Others are carried to the lymphatic glands, which soon undergo a secondary transformation. The third portion remains in the venous blood, and serves to propagate cancer more widely throughout the organism. Whether we consider cancer at its commencement, or in its course, or at its latest stage, it is always the white blood-corpuscles which appear upon the scene and play the principal rôle. Such are the views of M. Sappy. We find it impossible, however, to concur with these latest teachings. The presence, in the venous blood taken from the neighborhood of a tumor, of large cells with segmented nuclei and abundant fatty granules, is to our mind of very doubtful significance, and certainly of but little importance. If the units were really cancer cells, of which we have our doubts, there seems to us to be no reason for supposing that they were derived from the leucocytes. It is not at all improbable that the white corpuscles of the blood do assist in the formation of cancers and other new growths not necessarily of inflammatory origin. But on such scanty data to postulate the doctrine that the leucocytes are the source of encephaloid cancer can only be regarded as an illegitimate exercise of the scarcely scientific imagination.—*Medical Record*, Feb. 2, 1884.

TREATMENT OF MAMMARY CANCER.

The *Boston Med. and Surg. Jour.*, December 27, 1883, tells us that Küster, in a paper read before the Twelfth Congress of the German Surgical Society, advocates the careful dissection and removal of the contents of the axilla in every operation for cancer of the mamma.

This recommendation, which is not new, gains weight from his report of the careful microscopical examination of the glands in a number of cases where they were seemingly unaffected, and in which, nevertheless, a commencing cancerous change was found in them.

To show the effect of his thorough operation in preventing recurrence, Küster states that, of sixty women whom he had thus operated upon prior to three years ago, thirteen, or 21.66 per cent., remain well.

Gussenbauer, Langenbeck, and Esmarch spoke in favor of this thorough operation, and Esmarch even declared that when the glands were intimately adherent to the vessels and nerves, and yet there was no appearance of the disease in other parts, he was in favor of disarticulating the arm to permit of thorough removal; and he stated that the only case in which he had done this recovered, and has never had a return of the disease.—*Med. and Surg.*, Feb. 21, 1884.

THE INOCULABILITY OF CANCER.

Various experiments have been made to determine whether cancer can be transmitted from one individual to another by means of inoculation. These may be divided into four classes:—The inoculation of "cancer juice" beneath the skin; injection of cancerous matters into the stomach; injection of the same into the blood-vessels; and the transplantation of cancer by grafting. Experiments made by the first two methods have given negative results, and while in certain cases tumors have been developed after the injection of cancerous matters into the veins, the histological examination has not determined their cancerous nature. Attempts made to transmit cancer from man to the lower animals by grafting have been unsuccessful, and the results obtained by grafting from one animal to another of the same species have been doubtful. It would seem, however, when the recipient of the grafts is already affected with cancer, or predisposed thereto, that it is pos-

sible to transmit the disease in this way. In the *Revue de Chirurgie* for November, 1883, Dr. Nicaise relates a case in which a secondary tumor was developed at a punctured point in a case of sarcoma of the uterus. He concludes, from a study of the various experiments and clinical observations, that the transmissibility of cancer from man to the lower animals, from one animal to another of the same species, is not proven. But in the human species, sarcoma, under certain conditions, is capable of being developed secondarily in the same individual by grafting, and the same is true concerning certain papillary tumors of the ovaries.—*Medical Record*, Feb. 2, 1884.

DISLOCATION OF THE HUMERUS FROM SNEEZING.

Dr. WILLIAM RICKERT reports, in the *Maryland Medical Journal*, the case of a man who, while cleaning a house, felt an inclination to sneeze. He stopped work and, raising his left arm above his head, supported himself with the other hand against the side of the stable. While in this position he sneezed, and immediately felt that something was wrong with his shoulder. Examination showed an infracclavicular luxation of the head of the humerus, which was quickly reduced under anæsthesia.—*American Practitioner*, Dec., 1883.

TREATMENT OF FISTULA IN ANO.

Dr. POINET claims (*Le Courrier Médical*) that any fistula amenable to treatment by the elastic ligature may be cured by simple drainage of the fistulous tract. The drainage-tube is inserted by means of a stylet passed up the tract from the external opening. At the end of two or three weeks the drainage-tube falls out, after having destroyed the superficial wall of the fistula. A granulating surface of small extent is left, which rapidly heals by cicatrization. The procedure is wholly painless, and the patient may pursue his ordinary avocations during the entire course of the treatment. The operation is never followed by any of those serious complications sometimes seen after the cutting operation.—*Medical Record*.—*Am. Practitioner*, Oct., 1883.

RESPIRATORY ORGANS.

ON THE TREATMENT OF HAY-FEVER AND ALLIED DISORDERS.

By HARRISON ALLEN, M.D., Prof. of Physiology in the Univ. of Pennsylvania.

We take the following from the *Am. Jour. Med. Sciences*, Jan., 1884:—In the number of this journal for January, 1880, page 61, the writer contributed an article on the treatment of chronic nasal catarrh, and drew the following conclusions as the result of the study of an important group of cases:—"Obstruction is fatal to the efficiency of the nasal chamber as a respiratory and olfactory apparatus. . . . When a point of contact exists between surfaces which normally should not touch, the indication for the treatment is to destroy it. . . . This is accomplished by local remedies applied to the mucous membrane at and about the place of contact; or, in examples of abnormal deflection of the nasal septum, by removal of the offending portions of the bone. In the case of the inferior turbinated bone, the swollen and engorged tissues accompanying the inferior meatus may be removed by the knife. . . . Improvement is apt to occur at times when occlusions disappear. In a word, the restoration of the nasal chamber to its proper use, *i.e.*, as a respiratory chamber, is often alone sufficient to cure the disease. . . . As a rule, it may be said that obstruction is followed by loss of

function and distress; and when such obstruction exists, it should be removed when practicable."

The writer believes these conclusions were original with himself, and when first presented in a verbal communication before the Philadelphia County Medical Society, on the evening of Sept. 24, 1879, were allowed to go unchallenged as to any claim to originality, while they were vigorously assailed on their own merits. After an additional experience of four years, the writer is able to endorse the conclusions formed at that time, and to apply them to a yet larger group of cases. Reference is made especially to the cases of nasal disorders ordinarily grouped under the term "Hay-Fever." The symptoms of hay-fever are always associated with some degree of obstruction of one or both nasal chambers. A cause of this obstruction is dilatation of the blood-vessels. There is no doubt that the local phenomena are in most instances the same, and that the multiform related symptoms, such as injection of the eye, headache, malaise, asthma, etc., are due to reflex vasomotor disturbances. But many patients report for treatment who exhibit swelling of the nasal mucous membrane, occlusion of the respiratory passages, and mucoid or semi-purulent discharge, without any of the related reflex phenomena. Yet a third and intermediate group exhibit perhaps a tendency to turgescence of the mucous membrane, together with one or more of the more common constitutional symptoms of typical hay-fever. Indeed there is nothing peculiar to the disease just named save its sharply defined periodicity, particularly in that phase of it where the periods of recurrence happen to coincide with the time of fruitage of certain plants, or the gathering of certain crops. In a small group of cases where, in addition, other signs and symptoms become prominent which would invalidate the above proposition, I am inclined to attribute them to mental impression—in some of the varied phases of hysterical or neurotic excitement.

The writer then details *six* cases in illustration of periodic obstruction of the nasal chambers. Yet all the patients were relieved by essentially the same plan of treatment.

The conclusions to be drawn from the study of the cases are summarized briefly as follows:—

(I.) That the treatment of all conditions of obstruction in the nasal chambers, no matter from what cause arising, can be successfully carried out by destroying the causes of obstruction. If the cause be an overgrowth of bone-tissue, it must be filed, sawed, or drilled away (Case III.). If it be caused by a deviated cartilaginous portion of the septum, such portion must be re-set in a new place (Case IV.). If, as is often the case, it is due to periodic turgescence of the mucous membrane or the resulting secondary hypertrophies, such growths must be destroyed, either by the galvano-cautery, by the snare, or by caustic acids.

(II.) That the treatment of hay-fever and allied periodically recurring nasal affections in no way differs from the treatment of other nasal diseases accompanied by obstruction, and that the treatment may be conducted during an attack as well as in the intervals between any two attacks.

CONSERVATISM IN THROAT PRACTICE.

By H. CLINTON MCSHERRY, M. D., Prof. of Throat and Chest Diseases in Baltimore Polyclinic and Post-Graduate School.

From the *Maryland Medical Journal*, January 19, 1884.—There is no longer any novelty in reports of successful removals of laryngeal neoplasms, but recent published accounts of growths disappearing from the use of local applications without operative procedure are so rare that I feel justified in calling attention to this method of treatment, which, though not new, is the most judicious in some, perhaps in many cases. The two questions in regard to the treatment of growths in the larynx which require thoughtful answers are:

1st, What are the objections to the evulsion of growths, which, although small, are of sufficient size to allow them to be grasped by the forceps?

2d. Do topical applications ever give results which justify their being employed in the treatment of growths, which might easily be removed at the first sitting, and if so, in what cases?

In reference to the first question, if we exclude the danger of serious damage being done by any want of expertness in manipulation, the issues that must be carefully considered before evulsion is undertaken, are, whether there is good reason for the belief that recurrence is frequent, and that the growth of the secondary formation is apt to be more rapid and attain a larger size than the primary, and also if it is possible, that after the removal of a benign growth it may on its reappearance assume a malignant nature.†

Speaking of papillomata, which constitute about seven-tenths of all growths occurring in the larynx, and are the most apt of all benign formations to reappear, Morell Mackenzie says, "in sixty-seven cases the number of recurrences was four," but he adds, "after the operation, some were lost sight of at a comparatively early period. The proportion of recurrences is therefore in all probability rather greater than my statistics indicate.

The writer also quotes from Lennox Browne, Cohen, Stoerk, Turck and Prosser James, and says:—There is no necessity to dwell longer on this point as laryngoscopists generally agree that after removal of papillomata there is frequently reappearance.

The second point in regard to the first question is, do benign formations ever reappear after removal as malignant growths?

Without attempting to enter into the pathology of cancer, I will state that the weight of recent pathological investigation favors its local origin, and that the cancerous cachexy is secondary.

Cohen says in this connection, "it occasionally happens that the papillomas became transformed into epithelial carcinoma sometimes form mere local irritation from cough and pressure, and sometimes from irritation set up by repeated and unsuccessful attempts at removal." He adds, adenomas are likewise liable to become malignant. I have found six cases occurring, one each, in the practice of Gibb, Mackenzie, Rumbold, Brunz, Stoerk and Clinton Wagner.

In answer then to the first question we may admit that there are some drawbacks to the removal of growths, that there is liability to recurrence, that the secondary formation is usually of more rapid growth than the primary, and also that there is the possibility of a benign neoplasm reappearing after removal as a malignant growth. We will now take up the second question. Do topical applications ever give results which justify their being employed in the treatment of growths in the larynx which might be removed at the first sitting with the forceps, and if so, in what cases? Of all the growths in the larynx, 286 in number, reported up to 1870, twenty-one were treated by astringents and caustics alone, and of this number there were eleven cases of cure, nine of improvement, *i. e.*, the relief of dyspnoea, improved voice and diminished size of the growth, and one case which gave a negative result. Among these twenty-one cases are not included those of multiple growth.

Now, although from what has been said, it may be seen that I think that the removal of some growths is undertaken not only unnecessarily but injuriously, there can be no doubt that in many cases the only proper treatment is evulsion and it remains to be decided, which those cases are, and in what instances it is proper to make use of local applications.

Not to make this paper too long I will state in a general way that I think that every growth which produces marked dyspnoea should be removed, but if only slight hoarseness and cough is occasioned it should not be removed at once, unless it produces very decided paroxysms of coughing, or is a polyp with a small point of attachment. Further, I think that every sessile growth with a broad point of attachment should be treated with astringents and caustic applications a long time before its removal by operation is undertaken, unless some of the urgent symptoms mentioned above are present, but if after the prolonged use of local applications the growth does not diminish in size and the disagreeable symptoms continue, operative removal may be undertaken.

GLANDERS IN MAN.

Dr. J. D. ARNOLD [Clinical Society of Maryland], reported two cases which presented the usual symptoms and terminated fatally. They occurred in children, and the origin was traced to a horse which had belonged to the father of the children, and had died of glanders. The wood of the stall was packed away in the cellar, where the children played, to be used as fuel.—*Maryland Med. Jour.*, Jan. 5, 1884.

TUBERCULAR LARYNGITIS.

By A. N. ELLIS, M.D., Hamilton, O.

In a paper read before the Butler County Medical Society, Dr. ELLIS refers to the use of the laryngoscope in detecting lung troubles, especially in the first stages. The following was taken from the *Cincinnati Lancet and Clinic* for February 9, 1884:—A patient comes to you with the following symptoms: He complains that he is losing flesh and has an annoying cough; that occasionally night sweats afflict him; that the slightest exertion tires him; that on lifting, or climbing up stairs, or walking up a hill, he is obliged to *pant* for breath; that his voice is easily fatigued, and rendered hoarse; that he is despondent in his feelings; that every little thing worries him; that he is *blue* and out of sorts, without knowing just why.

So much for what he tells you. You now make a careful examination of the case and find the pulse running from 85 to 95—a nervous, irritable beat; the temperature from 99° to 100° F.; the respiration a little quicker; a slight flush on the cheek; a bright gleam in the eye, and when you come to examine the lungs you find a slightly diminished resonance, with a perceptible increase of vocal fremitus, and prolongation of the expiratory murmur. Taking a glance at the general system you find some evidences of mal-assimilation, leading to loss of weight. You go over the lungs time and time again, but find nothing you can reason by. Now it is right here that the laryngoscope gives us valuable aid in establishing a diagnosis, for we must not forget that tubercular disease may be detected in the larynx before it proclaims its presence in the lungs. Whether or not there be tubercle actually developed in the larynx, or what indeed is the nature of tubercle, I do not care to decide. I will only say that in my opinion, that whenever and wherever you find evidence of phthisis in the throat, sooner or later it will be found in the lungs.

Under a strong light the larynx discloses certain conditions of the lungs, some parts of the mucous membrane are pale and anæmic, white, while others have a muddy grayish look. The vocal cords are often congested. The blanched part of the larynx discloses a number of engorged capillary vessels, wandering feebly and aimlessly across its surface. The epiglottis partakes of the anæmic hue, and when this state of things is seen, should induce the doctor to make a careful examination of the apices of the lungs. On the lingual surface of the epiglottis you see the same kind of engorged looking vessels, that you have just seen on the interior of the larynx. Not unfrequently the surface of the mucous membrane is studded here and there with small, white protuberances, the size of a pin-head or mustard-seed, round or oval in shape. Groups of such exudations are found sometimes on the laryngeal surface of the ary-epiglottic folds. Often they remain unchanged in appearance for many months, looking much like calcareous degeneratives of former tubercles. Sometimes we find an appearance of roughness, which will increase until a vegetation sprouts up, looking much like a papilloma. Do not try to remove this by any operation, for if the case prove consumption, the spot will ulcerate, and the patient be thrown into an advanced stage of the disease.

Two or three months pass by, and quite a change is noticeable. The anæmic look is gone, and in its place we find congestion and tumefaction. When we see this condition of things we may be pretty sure that deposit of tubercle in the lung has taken place.

In the third and last stage we come to ulceration. The ulcers are almost always small and scattered. They have a worm-eaten, carious look, as if the process of degeneration had commenced in the deeper tissues. The intervening tissue soon breaks down, and so form large ulcerating surfaces. The ulceration on the surface of the vocal cords is seldom deep. As the disease advances, narrowing of the glottis often takes place, but there is never any attempt at cicatrization.

When we compare the ulceration and erosions of the disease now under consideration to those of tertiary syphilitic laryngitis we observe a very marked difference, for in the latter affliction they are not deep but rather flat, looking much like small vegetations, sprouting up like ordinary papillomatous growths.

CIRCULATORY ORGANS.

ON THE INTRA-VENOUS INJECTION OF SALINE SOLUTIONS AS A SUBSTITUTE FOR TRANSFUSION OF BLOOD.

By WILLIAM T. BULL, M.D., Surgeon to the Chambers Street and New York Hospitals.

In a paper published in the *Medical Record* for January 5, 1884, he says:—The use of saline injections in Asiatic cholera in the early part of this century demonstrated the safety of such a procedure, and likewise its inefficiency in checking the career of that disease. Within a few years, however, this method has risen to the level of a life-saving measure as a substitute for the transfusion of blood in conditions of acute anæmia and collapse. Of nineteen patients who have been subjected to the operation when at the point of death, thirteen have entirely recovered. In three death was averted, but occurred later, and in the remainder only temporary improvement was effected.

A study of the cases, however, in which the saline injections have been practised will convince one that they have really accomplished all that is claimed for them. In so simple an operation for a condition so familiar, I need not give more than the most essential details, so I shall avail myself of a table compiled by v. Hacker for ten of the cases (with some additions), supplemented by a note on one case from Dr. Halsted, of this city, and reports of six cases occurring in my own service, from operations done by my assistants, Dr. Jersey or Dr. Wilkie. In most cases the solution was that of Schwarz, consisting of distilled water, 1000.0 grms. (℥ xxxij.); common salt, 6.0 grms. (℥ jss.); liquor sodæ, gtt. 4j., warmed to 100°–104° F. This was allowed to flow into a vein at the bend of the elbow, from a glass irrigator or funnel, from a height of three feet, through a rubber tube to which the canula was attached, or injected by means of a syringe into the radial artery (peripheral end). For this latter procedure, which once resulted in gangrene of the hand, Dr. Halsted substituted injection into the central end of the artery, with success. I have employed the solution as used by Szumann, and also recommended by Schwarz, consisting of water, ℥ xxxij.; common salt, ℥ jss.; carbonate of soda, grs. xv., and in place of the irrigator a tubulated bottle with rubber tubing and canula attached, and have had distilled water at my disposal in but one case, when a two per cent. salt solution was injected. The average duration of the injection has been fifteen minutes.

Dr. Jennings recommends this solution:—Chloride of sodium, 50 grs.; chloride of potassium, 3 grs.; sulphate of soda, 2.5 grs.; carbonate of soda, 2.5 grs.; phosphate of soda (Na_2P_4) 2 grs.; dissolved in twenty ounces of water at 100° F., with the addition of 2 drachms of absolute alcohol, to be injected by means of a siphon of rubber tubing or a brass syringe.

Mr. Coates has also reported a case of post-partum hemorrhage, in which the injection of twenty-two ounces of water at 100° F. by Jeppings' syphon was followed by recovery (*Lancet*, 1882, ii., 1110).

The "record" of this method of treatment justifies its further trial, and I hope that practitioners will be encouraged by the observations I have collected to adopt it. I have frequently heard men say, "I tried transfusion several times, but it did no good." But we all know that transfusion has saved the lives of many patients, and I believe that it would have saved the lives of many more had not men, in view of its risks and the circumstances attending it, deferred its performance till they were *sure* that their patients were going to die—till, in fact, they were moribund. Then the operation "did no good." Now the injection of the salt solution is safe and free from all the disadvantages of blood transfusion. We may hence urge its trial at a much earlier moment, and may expect a favorable result. It seems to me best, in the face of collapse from great loss of blood, to employ stimulants (hypodermically), warmth, and auto-transfusion (by bandaging the extremities and raising the feet) for a limited time only, carefully noting the condition of the patient. If at the expiration of from fifteen to twenty minutes there was no decided improvement, I would proceed at once to inject the salt solution. In the cases of gas-poisoning I am sure that the use of the salt solution, to replace the blood drawn, accelerated the recovery, and I shall in future be disposed to bleed these patients more freely than I have hitherto done.

APHORISMS CONCERNING LIGATION FOR ARTERIAL HEMORRHAGE.

Dr. J. B. ROBERTS (*Polyclinic*, Dec. 15th,) holds that styptics are practically useless in general surgery, and that hemorrhage should be controlled either by pressure or ligation.

He offers the following rules:

I. In primary hemorrhage do not ligate arteries not actually bleeding, but have the patient carefully watched, for these reasons:—(a) It is possible that bleeding has permanently ceased. (b) It is difficult to be sure from which arteries the bleeding came. (c) All manipulations in wounds are to be avoided unless demanded.

II. In both the primary and secondary hemorrhage the ligature should be applied, when practicable, in the wound, at the point where the artery bleeds and not above, in the continuity of the vessel.

III. If the artery is completely severed both ends should be ligated; if it is partly divided or punctured, a ligature should be applied on each side of such wound.

IV. If a large artery is wounded near its origin, tie it below the wound, and tie the trunk from which it arises both above and below the point of origin of the branch. If a trunk is wounded near the origin of a large branch tie the trunk with two ligatures in the ordinary manner, and apply a third ligature to the branch.

V. When ligation of the artery in the wound is impracticable, as happens in deep wounds of the pelvis, ligation in continuity may be permitted.—*Maryland Med. Jour.*, Jan. 5, 1884.

ANEURISM OF THE FEMORAL ARTERY.—LIGATION OF THE EXTERNAL ILIAC.—CURE.

By W. O. ROBERTS, M.D., Professor of Surgical Pathology and Operative Surgery in the University of Louisville.

After detailing in the *American Practitioner* for October, 1883, the history of a case in which he ligated this artery successfully, Dr. ROBERTS says:—

Ligation of the external iliac artery for the cure of aneurism of the femoral was first practiced by Abernethy in 1796; but it was not until 1806 that

he met with success, the three operations prior to that time having terminated fatally. Dr. Dorsey, of Philadelphia, in 1831, was the first to perform it in this country. The tables of Drs. Norris and Cutter (*American Journal Med. Sciences*) show that the vessel has been ligated, for all causes, 153 times, with 47 deaths: 17 died of gangrene; 9 of hemorrhage; 5 of peritonitis; 3 of sloughing of sac; 8 of exhaustion; 2 of tetanus; 2 of causes unconnected with the operation; 1 of pleurisy; 1 of delirium tremens; 1 not stated, and 1 doubtful. There have been three successful cases recorded in which both external iliacs have been ligated in the same patient: one by Arendt, in which the interval between the operations was only eight days; one by Tait, the interval being eleven months, and one by Watson, with an interval of nine months.

Ligation of the external iliac artery is considered a much safer operation than that of the common femoral, for several reasons, viz., that the latter vessel, being so near the aneurism, its coats are more apt to be diseased; inflammation is more liable to attack the sac as a result of the close proximity of the ligature; the vessel being so short, and the origin of its large branches so near together, render it difficult for a solid coagulum to form above the ligature, and the liability of occlusion of the two great nutrient vessels of the limb with gangrene below as a consequence.

It goes without the saying that, in ligating the external iliac artery, care must be taken not to wound the deep epigastric artery, the spermatic cord, the peritoneum, external iliac, or circumflex vein, or genito-crural nerve, or to injure the sub-peritoneal cellular tissue. If the deep epigastric artery be divided, of course it can be ligated, but its occlusion would increase the danger of gangrene, as an important anastomosis would be stopped. Wounding of the spermatic cord is not apt to occur, as it can be easily detected and avoided. Wounding of the peritoneum is much less apt to occur when the abdominal wall is opened one-half inch above Poupart's ligament, as recommended by Sir Astley Cooper, and when the transversalis is torn through than when it is cut through. Sometimes it is impossible to avoid injuring this membrane, especially when adhesions exist. The vein is not likely to be punctured if proper care is taken in passing the aneurism needle from it. The genito-crural nerve can generally be seen and readily pulled aside; even were it divided, no special harm would be done. Should the external iliac be found diseased, or secondary hemorrhage follow its ligation, then by an extension of the incision the common iliac may be secured. Of thirty-two cases of this operation, tabulated by Dr. Stephen Smith, of New York, only seven recovered. To this table Mr. Erichsen adds eight cases, and gives thirty deaths and ten recoveries.

ALIMENTARY ORGANS.

ON THE VALUE OF INTERNAL ŒSOPHAGOTOMY.

By HENRY B. SANDS, M. D., Prof. of the Practice of Surgery in the College of Physicians and Surgeons, New York.

Dr. SANDS in his paper on this subject, published in the proceedings of the *New York Surgical Society* for January 22, 1884, gives the particulars of an aggravated case of stricture lately under his care in which this procedure was carried out with a gratifying amount of success, and restricts his remarks to simple stricture, fibrous or cicatricial, in as much as the operation is one of doubtful utility in cases of stricture due to the development of malignant growth. He says: Simple stricture of the œsophagus is probably always preceded by inflammation or ulceration of one or more of its component layers. From an ætiological point of view, œsophageal strictures are distinguished by the fact that a vast majority of them are due to the reactive inflam-

mation which follows contact with some highly corrosive liquid, such as sulphuric, nitric, or hydrochloric acid, or a concentrated solution of caustic potash. The effects produced by these substances, when swallowed, vary greatly in different cases. They may be limited to a part or the whole of the œsophagus, or may also extend to the stomach. If the poison is undiluted, and the quantity large, death usually occurs soon after the injury. The slightest lesion observed consists in a destruction of the epithelial lining, which is soon cast off and regenerated. The cases that possess a surgical interest lie between these extremes. The destructive action may be restricted to the œsophageal mucous membrane, or may involve the subjacent connective tissue, or even the muscular coat. It may be confined to a very short portion of the tube, or may extend throughout its entire length. Furthermore, it may include a part or the whole of its circumference. Accordingly, when the substance which has been destroyed and cast off is replaced by adventitious fibrous tissue, one or more strictures will result, varying in situation, character, and extent.

Provided a stricture is permeable to instruments of moderate size, its length can usually be ascertained by the use of a bulbous bougie. Œsophageal strictures may, like strictures of the urethra, be spoken of as linear, annular, or tubular. Another variety of stricture is that in which the cicatricial tissue does not embrace the entire circumference of the œsophagus.

The writer then gives the history of the case in which he operated, that of a girl 8 years of age who had swallowed, accidentally, a mouthful of a strong solution of caustic on September 27, 1882. No alarming symptoms occurred immediately afterward, but deglutition was subsequently always more or less difficult and painful, rendering necessary a fluid diet. Dysphagia began to be severe in November, and when, on January 10th, 1883, Dr. Sands first saw the patient, she was evidently threatened with death from starvation, and exploration revealed a light stricture of the œsophagus, situated nearly opposite to the middle of the sternum, at a distance of eight and a half inches from the incisor teeth. Daily attempts to penetrate it were unsuccessful until Jan. 16th, when he was able to introduce a filiform bougie having a diameter of two-thirds of a millimetre. During the ensuing five months dilatation was practised almost daily, but only very slow progress was made. On May 28th he was able to pass bougie No. 17 (F.). Whenever a single day passed without an attempt to dilate it, a contraction would take place, rendering necessary the use of smaller instruments, the employment of which sometimes caused considerable pain. Being convinced that further treatment by dilatation would be useless, and perhaps dangerous, by allowing accidental injury to the œsophagus, I decided to resort to internal œsophagotomy as the most promising expedient under the circumstances.

I was encouraged to anticipate success from the operation in the present case especially in view of two considerations: First, I had ascertained, by careful explorations made with demi-bulbous bougies, that the stricture was due to the presence of a narrow ring of fibrous tissue, occupying only a quarter of an inch of the length of the canal. Secondly, on introducing beyond the stricture an instrument which I devised for the purpose of examining the deeper parts of the œsophagus, and which is constructed on the same principle as Dr. Weir's urethrometer, I found that when the bulb was expanded to its utmost limit—No. 28 (F.)—no other contraction could be detected.

The dangers of internal œsophagotomy depend on the important relations of the gullet. In different parts of its course it is in close proximity to the pneumogastric and the recurrent laryngeal nerves, the trachea, the left bronchus, the pericardium, the aorta, the azygous vein, and the pleura. The loose connective tissue behind the œsophagus is prone to suppurate when injured, or when food or other irritating substances come into contact with it. It is evident that the chief danger of internal œsophagotomy is either that of accidentally cutting the healthy vascular tissues, thereby causing hæmorrhage, or of making the incision so deep as to injure one or more of the important parts with which the gullet is in relation. An ideal operation, therefore, would be one in which the cicatricial tissue alone is divided, and

in which the peri-oesophageal structures are left intact. We are thus led to examine the different methods which have been employed, in order to ascertain to what extent these requirements have been fulfilled.

Dr. Sands then describes the instruments which have been devised for performing internal œsophagotomy, and says:—There can be no doubt that the safety of the operation is increased when only one blade is employed, which can be directed with precision toward any part of the circumference where division of the cicatricial tissue is indicated.

The last and most important contrast to be observed is the different depth to which the incision is extended, or may be extended, with different instruments. This is great. Unfortunately, we have no means of determining in the living subject the exact thickness of the callous deposit, and are, consequently, left in uncertainty regarding the needful depth of the incision in any given case. A shallow cut may be useless; a deep one may be fatal. Notwithstanding our want of knowledge as to the condition of the diseased parts, we may, I think, proceed in such a manner as to overcome the constriction without subjecting the patient to any extraordinary risk. The depth of any single incision ought to be a trifle less than the thickness of its coats, which sometimes does not exceed two millimetres.

Perhaps, in a general way, it may be affirmed that an anterior incision is the most hazardous, and a posterior one the least so; but, if we adopt the precaution of avoiding incisions of sufficient depth to penetrate the entire thickness of the œsophageal wall, we may turn the edge of the knife toward any point without incurring much risk of wounding important parts.

The most difficult problem connected with the operation is that of exactly regulating the depth of any given incision. I believe that this can be done only by distending the stricture at the time when the knife is applied to it. On this principle I have devised a simple œsophagotome. The shank of the instrument, is a flexible tube made of narrow spiral steel plate, and is provided with a variable number of steel bulbs, each being furnished with a corresponding knife-blade.

The bulb being conical, the operator can readily perceive when it comes in contact with the stricture, before he projects the blade. In operating, a bulb must be employed which exactly fits the stricture; the depth of the incision will then just equal the distance to which the blade is projected by the action of the screw in the handle.

Dr. Sands then gives the subsequent progress of the case in brief extracts from his note-book:

June 15.—Stricture contracted to 15 (F.) Introduced œsophagotome with bulb No. 15. Passed bulb-joint beyond the stricture; projected blade two and a half millimetres, and incised the resisting tissue in the posterior median line. The operation was nearly painless, and only a few drops of blood followed the incision. The wound was allowed to remain undisturbed for twenty-four hours, the patient meanwhile being nourished by rectal enemata. On the day after the operation dilatation was resumed, and the stricture was found to admit No. 19.

October 7.—Limit of dilatation, 34. Since last date, treatment was once suspended for eighteen days, when contraction took place from 34 to 26. Made an incision in posterior median line with bulb 34, projecting the blade two millimetres.

31st.—Dilatation reached 39, beyond which point it was not thought best to carry it.

November 19.—Patient started for home, being in excellent health, and weighing sixty-two and a half pounds, a gain of twenty-one and a half pounds since treatment was commenced, nine months ago.

In a letter dated January 4, 1884, Dr. Doughty writes that "there is no evidence of a tendency to recontraction, and the function of the œsophagus is as perfect as it was before the injury was inflicted." Bougies are still employed, however, in the hope of obtaining a radical cure. Continuing, Dr. Sands says:

I am not willing to assert that, in the case I have narrated, a permanent cure has been effected; but I think it may be affirmed that the treatment

pursued has been successful in preserving the child's life, and in restoring her to comparative health and comfort. Should dilatation fail to prevent recontraction, I would not hesitate to resort again to internal œsophagotomy.

Gradual dilatation is usually, and in my opinion, justly regarded as the safest and best mode of treatment, wherever it is practicable. It is much to be regretted that this method is not always resorted to as a preventive measure, or in the incipient stage of the disease, before cicatrization has taken place. I have little doubt that, in many cases, the formation of a stricture might be obviated by the frequent introduction of a full-sized bougie while the healing process is going on; and I believe it should be the rule to commence such treatment within a week or ten days after the injury has been received.

If a stricture is impermeable to instruments, dilatation is of course impossible; but, even when bougies can be readily inserted, dilatation is not always successful, as some have maintained, in restoring the distensibility of the contracted parts. Nor is the introduction of dilating instruments always safe, especially when the stricture is narrow.

Finally, treatment by dilatation often requires to be continued indefinitely, in order to prevent recontraction; and, as in the case of urethral stricture, persons suffering from stricture of the œsophagus are notoriously prone to neglect themselves, avoiding dilatation until it becomes difficult or impossible.

On reviewing the whole subject, we may conclude that certain forms of œsophageal stricture, which have heretofore proved unmanageable, are no longer beyond the reach of surgical art; and that, in some of these, internal œsophagotomy is capable, not only of saving life, but also of reëstablishing the function of deglutition, so essential to its enjoyment.

TREATMENT OF CANCER OF THE RECTUM.

At the close of a recent lecture on this subject, Prof. TRÉLAT drew the following conclusions:

1. Cancers of the rectum which do not cause accidents should be left alone.
2. Cancers of the very extremity of the rectum, or of the margin of the anus, should be extirpated.
3. Accidents should be treated as they arise, but palliative measures are to be avoided. In this respect, he is in accord with Prof. Verneuil, but opposed to many English surgeons.
4. When the finger can be passed beyond the cancerous mass, rectotomy should be performed, otherwise not; but a way of derivation should be made by lumbar colotomy or by forming an inguinal anus.—*Revue de Thérap.*, Jan. 15, 1884.—*Medical News*, Feb. 9, 1884.

TREATMENT OF BUBOES.

M. KEMPEN recommends multiple punctures with a lancet, plunged deeply into the bubo. The punctures should be made early. The result is very gratifying; in many cases, even before pus forms, the inflammatory tension disappears, and resolution proceeds rapidly. In case pus has formed, it is pressed out, and an injection of a 1-12 solution of chloride of zinc made into the bubo. A dressing of dry charpie is used.

When the bubo has already reached the suppurative stage, it is punctured as in the above-described manner, but not freely incised, and after being thoroughly washed with carbolized water, two and a half per cent., the solution of chloride of zinc is injected, and dry charpie applied as before. The dressings are used three times a day.—*Revue de Thérap.*, Jan. 15, 1884.—*Medical News*, Feb. 9, 1884.

PRIORITY OF CLAIM OF ABDOMINAL SECTION IN GUN-SHOT WOUNDS OF THE ABDOMEN.

In the July number of the *American Practitioner* an esteemed contributor, Dr. Fuqua, of Hopkinsville, Ky., gives to Prof. Hunter McGuire, of Richmond, Virginia, the credit of being the first American surgeon to recommend section of the abdomen in shot wounds of this cavity. In the October number of the same Journal, Surgeon D. L. Huntington, U. S. A., claims this credit for the late lamented Surgeon George A. Otis, U. S. A. Not very long before a similar claim was set up for himself by Mons. Legouest in his work on military surgery.

Each of the three surgeons named believed, we are confident, that he was the first to conceive both the operative procedure and the conditions which warranted its being put into practice. No one who knows either of the two Americans, at least, can have any doubt on that point. But the fact is, it was advised to treat abdominal wounds by enlarging them and searching for the injured parts more than forty years ago by my venerable and beloved master, Dr. Samuel D. Gross, at that time Professor of Surgery in the University of Louisville. The recommendation was based on an elaborate series of experiments made in 1841, 1842, and 1843, on wounds of the intestines of dogs. The results of this work were embodied in a series of articles published in the *Western Journal of Medicine and Surgery*, edited by Drs. Drake, my father, the late L. P. Yandell, and Thomas Colescott. I myself assisted in some of these experiments. In the papers referred to, my old teacher clearly enunciated the practice which should be pursued in injuries of the bowel, whether incised or punctured, attended with fecal extravasation. In such a case Dr. Gross says, "He," the surgeon, "has a duty to perform, and that duty consists in dilating the external wound, if it be not already sufficiently large, in hooking up the injured bowel, and inclosing the solution of continuity with the requisite number of stitches, at the same time that the effused matter is carefully removed with tepid water and a soft sponge. . . . By the above procedure (which, under the circumstances pointed out, I should never hesitate to pursue) the patient is not placed in a worse condition than a female who has undergone the Cesarean section, or a person whose abdomen has been ripped open in the first instance, recovery from both of which is not, as is well known, of infrequent occurrence."

In the same papers, Dr. Gross recommended, on the basis of his experiments, excision of a portion of badly wounded or gangrenous bowel, and fastening together the raw edges with sutures. A few years after the publication referred to, the late Dr. Charles Luzenberg, of New Orleans, successfully excised six inches of the abdominal tube which had mortified in consequence of a strangulated hernia. It is needless to add that since that time hundreds of excisions of a portion of the intestinal tract have been successfully done.—*American Practitioner*, Dec., 1883.

THE TREATMENT OF IRREDUCIBLE HERNIA BY OPERATION.

By WILLIAM T. BULL, M. D., Surgeon to the New York and St. Luke's Hospital.

From the proceedings of the *New York Surgical Society*, November 27, 1883. With the confidence inspired by success with antiseptic wound-treatment many surgeons have been encouraged to revive operations which had been discarded, and to perform them with success. Among such none have attracted more notice than the operation for the radical cure of hernia. "Modern radical operations," may be reduced to three—viz.: 1. Closure of the abdominal aperture of the hernia (Steele and Marcy). 2. Closure of the neck of the sac by ligature or suture (Nussbaum). 3. A combination of the two procedures (Czerny).

Reports of operations and a number of papers have accumulated the experience of nine years, and we can form a good notion of the value of these operations by studying the elaborate statistics compiled by Dr. Leisrink, of Hamburg. It will be sufficient for my purpose to call attention to the results

of the operation for all cases not strangulated—i. e., reducible and irreducible. Of these there have been operated on, by one or the other method, 203 cases (169 inguinal, 25 femoral, 8 umbilical and ventral), with 15 deaths, which gives a death-rate of only 7.4 per cent. Nine deaths were due to septic poisoning, which represented a death-rate of 4½ per cent. from this cause. The percentage of relapses, or cases in which no cure was obtained, is large. Details are not given in all cases, but of those reported there are found 20½ per cent. of relapses. Of thirty-two patients who experienced relapse, a decided improvement was claimed in 80 per cent. Of the patients operated on for inguinal hernia, in 60 per cent. it was irreducible.

These figures show that the operation is attended with danger (7 per cent. mortality, 4½ per cent. deaths from sepsis), and that it fails to effect a cure in 20 per cent. of the cases, while at the same time it holds out decided hope of improvement. It can therefore hardly be recommended to patients with hernia that can be controlled by a truss.

The subjects of irreducible hernia, on the other hand, or at least a large majority of them, suffer frequent inconvenience, and are in constant danger of serious accidents.

These are the cases for which I believe the modern operations are desirable, and should be recommended when the simpler measures—such as rest in bed, restricted diet, repeated taxis and compression of the hernia—have failed. I have operated in all the cases which have come under my notice in the past three years, and with success. They are three in number. I have followed only the one method, that of ligature and excision of the sac, and that is the only one, from what I have read of the operations of others, that I should be willing to recommend. I think it wisest to adopt the *safest* operation for an irreducible hernia, which will make it reducible. A truss will then control it, and at a later date I should endeavor to diminish or to close the abdominal aperture by the injection method.

While the statistics quoted above give one a general idea of the risks of the operation, it will be apparent to all that these will vary with the conditions of each individual case. A small omental hernia in a woman is a safe thing to cut into, and a large intestinal hernia in a man a very dangerous one. In the same way the ligature or the excision of the sac in one case may add a trifling risk, in another a very great one. Drawing down the peritoneal pouch, cutting it across, and causing it to unite, is the chief object to be accomplished. The remainder can be left (and drained) if its removal would leave a wound with many chances of septic infection. If not, it should be excised.

I have spoken of this operation only in connection with irreducible hernia. It is proper, however, to state my convictions as to its employment in strangulated cases. Leisrink's tables show the mortality after operations for strangulated hernia to be as follows: Of 186 cases, there were 33 deaths, giving a mortality of 17½ per cent. This compares most favorably with the rate of mortality in the days before antiseptic surgery was adopted; for the statistics of Luke, Malgaigne, Textor, South and Gosselin show a death-rate varying from 32 per cent. to 80 per cent. As to the duration of the strangulation, the modern operations with antiseptic treatment show:—Twenty-three cases operated on within 50 hours, 2 deaths, 8½ per cent. mortality; 21 cases operated on after 50 hours, 7 deaths, 33½ per cent.; while with the older methods we find (Gosselin's statistics) 25 cases operated on within 50 hours, 8 deaths, 32 per cent.; 41 cases operated on after 50 hours, 23 deaths, 55 per cent.

This, indeed, convinces me that it is safe enough to add to the ordinary operation for strangulated hernia the measure I have referred to above. In other words, I would urge ligation or suture of the peritoneum at or above the neck of the sac in every case of strangulated hernia, and excision of the sac besides, or its drainage, according to the circumstances of the case.

THE MODERN OPERATION FOR THE RADICAL CURE OF HERNIA.

The following is from the editorial columns of the *Medical News*; Feb. 9, 1884:—Professor Czerny, of Heidelberg, in 1879, published an account of his

method of effecting a so-called radical cure of hernia, which consists of exposure of the sac by a free incision under antiseptic precautions, of reducing the protruded parts, of isolating the sac from the surrounding structures, including its neck in a catgut ligature, and cutting away the remainder, of returning the stump into the abdomen, and, finally, of uniting the refreshed edges of the ring with the continued catgut suture.

Ligature of the neck of the sac, with excision of the fundus and stitching together the margins of the abdominal opening, appears to be freely and successfully practised by the surgeons of Liverpool.

This operation is applicable to all kinds of hernia, reducible or irreducible. According to Mr. Banks (Liverpool), it should not be performed in young children, unless the opening is very wide, and the child is unable or dislikes to wear a truss. In adults, it is especially useful when there is adherent omentum in the sac, and in hernia complicated with undescended testicle, conditions in which a truss is ineffectual. In cases of this description, the omentum or testicle should be removed. In ordinary examples of reducible hernia, it is contraindicated, unless life is rendered miserable by the disease, or the subject is rendered unfitted for work. The patient should remain in bed for at least three weeks after the operation, and wear a light truss afterward for additional security; but in none of Mr. Parker's cases (Liverpool) was a truss applied, and some of the subjects were up within a week, as he does not think that recurrence of the hernia is referable to the absence of such precautions.

The modern operation for rupture is one of expediency, not one of necessity. It may be resorted to directly for curative purposes, or as a part of the operation for strangulated hernia. Hence, in estimating its merits as to safety, the former class of cases can alone be taken into account, as it in no wise increases the dangers of the latter class; while both groups should be considered in arriving at a conclusion in regard to its curative effects.

The mortality of the Liverpool cases, which number about one hundred and twenty-five, was absolutely nothing, a fact which reflects great credit upon the surgeons of that city. Unfortunately, little is said of recurrence of the trouble.

In a monograph, entitled *Die Moderne Radikal-operation der Unterleibsbrüche*, Hamburg, 1883, Dr. Leisrink has collated 890 cases, which throw the desired light upon questions of mortality and efficiency.

The combined results of the Liverpool cases, and those collated by Leisrink, show that of 515 operations for reducible and strangulated herniæ only 9.3 per cent. died, of which about 2 per cent. may be ascribed to the strangulation itself, since the mortality of the operation for reducible hernia, as shown by Leisrink, is 7.4 per cent.

The natural conclusions at which we would arrive from a consideration of the foregoing facts are, first, that, although the modern operation kills about one patient in every thirteen or fourteen, and fails in about one case in every five in which it is resorted to as a matter of expediency, it none the less is of great value in restoring many persons to comfort and the possibility of earning their living; and, secondly, that it should be practised in all operations for strangulated hernia in which the gut can be returned into the abdomen.

A PECULIAR CASE OF CONSTRICTION OF THE BOWELS.

By D. H. STRICKLAND, M. D., Acting Assistant Surgeon U. S. Marine Hospital Service.

The following interesting case was published in the *Med. and Surg. Reporter*, Dec. 8, 1883:—Thos. Kerr, aged forty years, and a merchant marine employed on the St. Judea, was admitted to the Hospital, September 10, 1883, at 10 p. m., suffering with severe pain in bowels (referred by him to the region of stomach). He stated on admission that he had been suffering from severe pain in bowels, and vomiting from early morning of the day of admission. When brought to hospital, vomiting had ceased, but pain in bowels was intense, and occurred spasmodically. He was given warm drinks and $\frac{1}{4}$ gr. of morphia hypodermically to control pain, which had the desired effect after second $\frac{1}{4}$ gr. of morphia was administered. He spent the night tolera-

bly comfortably under the influence of the anodyne. My attention was called to the case early next morning, when I found a man of medium stature, with haggard expression, indicative of great suffering, tympanitic and distended abdomen (not overly sensitive on pressure), vomiting a greenish-yellow matter, and complaining of great pain in stomach.

I continued the morphine hypodermically, applied large poultices of flax-seed-meal, in which a small portion of oil of turpentine was incorporated, and gave him ice freely to allay thirst and check vomiting. He continued to vomit for forty-eight hours after admission, but at no time were the dejections of a stercoraceous character. Pain was kept in subjection by the use of the hypodermic syringe and hot fomentations to bowels. After the lapse of forty-eight hours from time of admission, vomiting ceased, from which time he was able to retain iced milk, beef-tea, and milk-punch, which was given him freely. Pain continued the leading feature in the case, and we were obliged to continue the morphia hypodermically. My first impression of the case was that my patient was suffering from some obstruction of the bowels, probably intussusceptio (although he informed me that his bowels had moved naturally two days previous). Hence, after vomiting ceased, I turned my attention to bringing about an action of bowels, and to this effect I gave him 10 gr. hydrg. submur. by mouth, and a large injection of warm water, to which was added castor oil and oil of turpentine, with the instruction to have the injection repeated in two hours, if first should not prove effective. After second injection he had a slight fecal discharge, evidently from the lower bowel. Not being satisfied with the character of the discharge, I ordered him a full dose of castor oil and 10 grs. hydrg. submur. All the milk and beef-tea he would take, and with hypodermic injection continued often enough to control pain. Upon my next visit I was informed that he had another slight fecal discharge. I then ordered a tablespoonful of oil in whisky by mouth, and injection repeated, with no effect. My patient grew worse from day to day, and died on the morning of the eighteenth—eight days from date of admission.

Autopsy six hours after death. On opening the abdominal cavity, we found a marked congested, blackened condition of the entire alimentary canal. No effusion in peritoneal cavity, and upon further search we found a firm fibrinous band attached to the external oblique muscle of the right side four inches from umbilicus, extending to the left and around the small intestine near the junction of the ilium, and jejunum, then down and finally attached to the small intestine near its junction with the large bowel, completely constricting the small intestine at the encircling point.

The interesting feature in the case was, how could this condition of things have existed so long without causing any previous trouble, as the man stated he had never had a similar attack, and the organized condition of the band precluded the theory of a recent formation, but rather gave evidence of an old trouble of long standing, or probably may have been congenital.

THE TREATMENT OF DILATATION OF THE STOMACH.

The *American Practitioner*, November, 1888, says:—Under the title of gastritis, atrophy and dilatation of the stomach, Dr. James Russel records (*Birmingham Medical Review*) the case of a man aged twenty-six, whose symptoms extended over a period of ten years, dating from an acute attack of ill-defined nature, probably gastritis. "This attack permanently changed the digestive power of the stomach; from that time the patient lost the ability to assimilate animal food, with the important exception, however, of milk. Ten years afterward we found that meat, finely comminuted and given in small quantity, remained for two days in the stomach and was then rejected, unchanged." The patient was thin, but not cachectic, and there was considerable dilatation of the stomach. It was found that, even when tried most carefully, all kinds of solid albuminoid food were rejected after a more or less brief stay in the stomach. Milk alone could be retained. Of some substances (e.g., cod liver oil) the stomach was exceedingly intolerant and

immediately rejected them. Washing the stomach out by means of the siphon-tube was tried, but it produced considerable distress and did no good. In the ordinary forms of atrophy of the stomach, the peptic glands are the chief sufferers, and the patient is able to assimilate the hydrocarbons. In this case, however, the patient was very thin, and unable to digest anything but milk; a condition of subacute or chronic gastritis was constantly kept up, and as a result of these changes and the impaired general nutrition which necessarily followed, a state of dilatation of the stomach was induced. This, of course, tended to keep up the mischief by permitting the accumulation of food in the stomach and favoring its decomposition. The remedy for this state of things employed by nature is vomiting, and cleansing the stomach by means of the siphon-tube is therefore the proper line of treatment to adopt. In the case above alluded to it failed, probably in a great measure owing to the organic changes that had taken in its structures. The value of washing out the stomach in cases of dilatation of that body is well shown by three cases given at the conclusion of the paper, in one of which the patient found such relief from it that he sometimes resorted to it twice a day.

DIAGNOSIS OF LINGUAL ULCERS.

CARCINOMATOUS.

Age—usually after forty-five years.
Exceptions.

Site—usually on one side. Tends to invade floor of mouth.

Edge—defined, infiltrated, everted, hard.

Pain—constant; darting into ear, etc.

Fixity—marked, from tendency to invade floor of mouth.

Glands—submaxillary lymphs soon involved and hard.

Progress—steady; often rapid. Resists treatment.

Origin—in a slight abrasion; a fissure or crack; wart (rare).

Previous history and concomitant signs—perhaps of irritation.

SYPHILITIC.

Age—usually after forty-five years.
Exceptions.

Site—on the upper surface; often in middle line.

Edge—less defined; may be excavated and sloughy; not infiltrated or everted. Another s. myositis interstitial and diffuse.

Pain—comparatively slight.

Fixity—not marked.

Glands—affected less rapidly and to a much less degree. Post.-cervic. as well as submax. Grows less hard.

Progress—slow; often stationary. Amenable to treatment.

Origin—in a "lump."

Previous history and concomitant signs—of syphilis.

—*American Practitioner*, Oct., 1883.

URINARY AND GENERATIVE ORGANS.

THE GEOGRAPHICAL DISTRIBUTION OF URINARY CALCULUS WITH AN INQUIRY INTO ITS CAUSE.

By EDWARD L. KEYES, M.D., Prof. of Cutaneous and Genito-Urinary Diseases in Bell. Hospital Med. College, New York.

In the proceedings of the *New York Surgical Society* published March 1, 1884, Dr. Keyes says:—It seems fair to assume that whatever influence hard water may have in the production of stone must be exercised in some secondary manner, as by deranging the digestion—if it operates at all—which may be considered doubtful.

Probably no country is entirely free from areas in which stone formation is relatively prevalent, but the distribution of these areas seems to be arbitrary. The writer of the paper then gives an account of the occurrences of urinary calculus in England, France, India, etc., etc., and says these irregularities of distribution are not satisfactorily accounted for by any peculiarities of race, food, habits, soil, climate, temperature, or water. He is speaking of primary acid stone formation.

Why, then, does the fact exist that certain portions of the earth's surface are more fertile in stone cases than other portions? *Race* may have something to do with it. That *climate* alone should influence stone formation, seems improbable. *Social condition, habits, and occupation* are not paramount etiological factors of stone, although they have a certain bearing upon it. *Food* alone cannot materially promote stone formation by its quality, although where the tendency exists it may be intensified by the quality of the food.

Constitution.—It is probably not doubtful that gout and rheumatism increase any existing tendency there may be to stone formation, because these diathetic conditions are accompanied by acidity of the urine as a rule, with a tendency to abundant excretion of uric acid, urates, and the like.

Allowing, then, if the foregoing representations are accurate, that water, climate, soil, occupation, exposure, digestion, alcohol, and food are not responsible for the geographical distribution of stone, granting some weight to race and social condition and considerable influence to the rheumatic diathesis, what factor remains to be considered, for surely these alone are not entirely sufficient?

The only one which seems capable of filling up the gap is heredity. As gout is hereditary, so are the tendencies to stone. I have at present under observation a family in which three generations, all living, have strong and constantly outcropping tendencies to the appearance of fine uric-acid gravel. The baby of four years and the grandfather of seventy manifest it about equally. Mr. William Cadge, in discoursing recently to the Norwich Medico-Chirurgical Society about a woman with sacculated bladder and stone, mentioned that the patient's father had died after lithotomy, and that her brother, living in Buckinghamshire, was then said to be suffering from stone. The most celebrated recorded instance of inherited tendency to stone, so far as I am aware, is that reported by Mr. Clubbe, of Lowestoft, where six children all had stone, the father and mother passed quantities of uric acid, the grandfather, grandmother, great uncle, six uncles, four aunts, and a cousin, all had had attacks of gravel or had been cut for stone.

It seems to me not very improbable that hereditary tendency lies at the bottom of the regional distribution, and largely accounts for the peculiar geographical localities of stone. Generation after generation, growing up in the same region of country and intermarrying, would naturally reproduce and intensify any such physical trait as a tendency to stone. I am aware that it has been claimed that strangers going to Norwich have developed stone, having shown no tendency to it in their own land; but it would take a large array of such facts to constitute anything more than a coincidence.

Food, drink, and surroundings may have intensified or modified these natural tendencies more or less, but that the essence of the geographical distribution of stone (primary, acid stone) lies in intensified and reduplicated hereditary predisposition seems to me at least plausible in lack of a better general explanation.

CATHETER FEVER.

The editorial department of the *Med. and Surg. Reporter*, Feb. 9, 1884, gives the following from Sir Andrew Clark's paper:—

First, that about middle life in men perfectly healthy, or with no discoverable evidence of disease, except perhaps, low density of urine, the commencement of the habitual use of the catheter is sometimes followed by fever of the remittent type, which often ends in death, and that for the fatal issue in such cases no adequate structural explanation can be found. Secondly, that it is important that such a fever, arising in the midst of apparant

health from such a seemingly small cause, and leading so often (as it certainly does) to a fatal issue, should be well and widely known. Thirdly, that although it is well known that in persons affected with renal disease, or with chronic gout, or with grave disorders of the general health, the commencement of habitual catheterism is attended with peril to life from secondary fever, the fact that this fever may arise in what seems to be good health, and without the mediation of any visible structural lesion, issue in death is not well known, and has no adequate place in English surgical literature of this time. Fourthly, that this fever is neither distinctly uræmic nor distinctly pyæmic; that although, having some of the characters of each, it has all the necessary characters of neither; that probably it begins in the nervous system; that probably the disturbance of the nervous system reacts in the first instance upon the general metabolism of the body, and in the second instance upon the secretory organs, beginning with the kidney; that the effect upon the kidney may consist in structural alterations of the kidney, invisible by the aid of our finest instruments of research, or (as seems to me much more probable) in alteration of the constitution of the blood; and lastly, that the concurrence of these conditions may, and often is, enforced by septic reabsorption into the blood. Fifthly, that a more complete knowledge of this variety of fever, and of the conditions of its origin, maintenance, and increase may, at least we may hope, lead to a material diminution of its mortality; and that even now, by treating in a serious manner entrance upon catheter life by taking the precautions set forth by Sir Henry Thompson, by great temperance in the use of foods and stimulants, by rest, warmth, and by other general means, such mortality, may be possibly considerably diminished.

Of these propositions, the one at present most open to attack is the fourth, wherein it is asserted that this fever is not distinctive and exclusively uræmic. I ground my opposition to the exclusively uræmic theory upon the fact that the phenomena of catheter fever, not as they exist at a particular moment, but in their assemblage and in their progress together, are different from those of the ordinarily recognized uræmia. The duration is at once longer and shorter—longer than that of the acute uræmia, and wanting its headache, its perversions of sensation, its changes in the urine, its convulsions, its profound coma; shorter than that of chronic uræmic, wanting its neuralgias, its recurring headaches, its defect of sight, its fleeting paralyses, its itchings of the skin, its vomiting, its characteristic breath, its attacks of dyspnoea and palpitations, its painful nervousness, its low temperature. Furthermore, the urine of the catheter fever of this variety is always loaded with micro-organisms of various kinds; and although it is deficient in urea and contains more or less albumen, it deposits no tube casts and it is capable of amendment. Lastly, whilst chronic uræmic issues in death, catheter fever may issue, sometimes does not issue, in complete recovery.

Two questions of a practical kind arises out of this study of the history of catheter fever. The first is this: seeing that by almost universal assent the fever originates at least in a disturbance of the nervous system, may it not be that the fever is capable of being cut short by the administration on entering upon habitual catheterism of narcotic or anæsthetic remedies? The second question is this: assuming the presence of the fever, and seeing that the quinine has signally failed in controlling it, what are the drugs to be employed on such occasions? and what is the sort of hygienic management to be followed, especially in respect of food and alcohol? Sir Andrew endorses Mr. Syme's plan of giving a grain or two of opium from the very beginning.—*Lancet*.

The London correspondent of the *Medical Record*, in a letter dated December 24, 1883, says:—An interesting discussion followed the reading of Sir Andrew Clark's paper, and that Sir Henry Thompson objected to the term "catheter-fever" and maintained that the condition, although supervening at the commencement of "catheter life," was due to the fact that the use of the catheter had been postponed too long, and "had the catheter been used when there were only six or eight ounces left in the bladder, we should have heard nothing of catheter-fever."

Sir Andrew Clark's views evidently did not meet with unqualified approval, especially as regards the pathology of the disease. Had they been brought forward by a less distinguished physician they would probably have attracted little attention.

Dr. Robert F. Weir in clinical remarks (*N. Y. Med. Journal*, Jan. 5, 1884) made at the New York Hospital, says:—"This is not an unknown disease at all; surgeons are constantly witnessing such ill effects of the introduction of the catheter, particularly in quite elderly people—people who have had trouble with the prostate and variable, incomplete retention of urine for a number of years.

Under the heads of cystitis, pyelitis, and "surgical kidney," with or without appreciable abscess, may be grouped, clinically, the severer symptoms producible by the introduction of an instrument into the bladder of an old or elderly man. Now, this "catheter fever" is something which every one of you will run against sooner or later, and what I want to impress upon you is the fact that it is more apt to occur the longer the prostatic trouble has existed. This is a strong reason, in my mind, for teaching elderly men so affected to use the catheter early. When as an old man has difficulty in passing his water, with incomplete emptying of the bladder, he should be taught to use the catheter so soon as this is recognized. On the first occasion he may find that its passage causes more or less irritation, perhaps a slight aggravation of his symptoms for three or four days, and he will think that your remedy is worse than the disease. He will argue that this trouble only compels him to get up once a night to urinate, and his water is perfectly clear; why, then, subject him to this annoyance? And you will find a good deal of difficulty in leading your patients to follow your advice; but I can assure you that, if you do so, you will anticipate pathological changes, and save them a good deal of subsequent trouble.

How are you going to avoid this "catheter fever" when you meet with a case of this sort which has continued for five, six, or eight years, or those cases in which it is most common—I mean where the patient is attacked with retention, and is completely unable to pass his water. You should do one of two things: either withdraw all the urine, and then do as I shall tell you in a moment, or else stop the flow of urine when half a pint has escaped, and at each subsequent catheterization draw off a little more. I prefer, however, that you should act in this way: let the man pass what water he can in your presence, then introduce the catheter and empty the bladder, but do not leave the organ in its collapsed condition. Instead of so doing, throw into the bladder a quantity, equal to one-third or one-half of the urine withdrawn, of a solution of carbolic acid, 1 to 100, or a solution of boric acid, one drachm to the pint, or ordinary hot water, or, what I like above all, a solution of bichloride of mercury, 1 to 5,000. The quantity of the injection is to be diminished gradually until you get the bladder used to its contraction. The patient is also to be kept in the house for a few days, until tolerance of the instrument is fairly established.

MALPOSITIONS OF THE KIDNEYS.

By DAVID NEWMAN, M.D., C.M.

The following appeared in the *New York Med. Abstract*, January, 1884:—There is a great diversity of opinion in regard to the pathological importance and therapeutic indications of misplaced kidney, and more particularly when the displacement is associated with mobility of the organ. When the organ floats free in the abdomen, and gives rise to serious symptoms, the surgeon considers life so much in danger, that he does not hesitate to extirpate the kidney. In regard to the latter condition, extreme views are held by Keppler and Landau. The former considers that a movable or floating kidney should be excised as soon as detected, and regards it as a continual source of danger, while the latter says that death does not result from this condition, and in no case is nephrectomy justifiable.

I. *Simple Misplacement without Mobility* is by no means uncommon. Perhaps no organs in the body vary more in their position. Without any evident cause, malposition of the kidney within certain limits is pretty frequent, and may exist without giving rise to disturbance. Malposition of the kidney does not necessarily involve an alteration in the position of the supra-renal capsule.

Besides being liable to congenital malposition, the kidney may be displaced upward, downward, or laterally from the enlargement of other organs, such as liver, spleen, supra-renal bodies, or pancreas, or from pressure of tumours near them. The number of cases of fixed malposition of the kidney, now upon record, are very numerous. Most of them, however, were discovered after death, and only in a few was inconvenience occasioned during life.

II. "*Movable and Floating Kidney*" are used by most writers as synonymous. It is necessary to distinguish between them. Movable kidney is mobile behind the peritoneum, either within its adipose capsule, or in a sac formed between the peritoneum and the muscular wall of the abdomen; whereas floating kidney moves about within the cavity of the peritoneum, and is attached by a mesentery to the spine. The distinction between movable and floating kidney was adopted by Sir William Jenner.

Floating kidney is no doubt less common than movable kidney, but whether the peritoneum remains loose or becomes united around the kidney does not in any way increase or diminish the pathological importance of the displacement, although from a surgical point of view the former must be regarded as more dangerous than the latter condition.

Movable Kidney. If the condition of the kidneys as regards mobility be observed in a large number of bodies, a certain degree of movement, sometimes amounting to two or three inches, will be found to be not uncommon. The peritoneum in many cases, particularly in women who have borne large families, is very flaccid, and its union with the posterior abdominal wall is but slight; and if, in addition to the loosening of the attachment of the peritoneum, the normal adipose tissue surrounding the kidneys has become atrophied, more or less movements of the organs may be permitted. The right kidney is more liable than the left, even to slight disturbance. This is probably due to the fact that normally the right kidney is not bound down so firmly to the abdominal wall as the left. This movement seldom exceeds $1\frac{1}{2}$ inches, but to this extent it is very common. Slight movement of the kidney is not of great importance.

Etiology. In 1,422 patients which he examined, Skorzewsky found that 32 females out of 1,080, and 8 out of 892 males, suffered from movable kidney. The age at which this affection is most frequently met with corresponds to the child-bearing period and a few years succeeding it.

The undue proportion of female cases and the period at which the malady is most commonly seen, seem to indicate that pregnancy may have something to do with the production of the affection, either by causing an undue looseness of the abdominal walls, by pressure of the expanding or contracting uterus, or by the spasmodic voluntary muscular efforts during parturition.

Another supposed case is tight lacing. Dr. Roberts, and other eminent authorities in this country, agree with this view, while Landau considers the corset of little or no importance as a cause of movable kidney.

Oser, of Vienna, considers that pregnancy is one of the most common causes of movable kidney, and states that, amongst the poor of Austria, 10 per cent. of the women who have borne children suffer from it, and Prof. Bartels, of Kiel, has also found it frequently amongst working women, but attributes it to the habit of wearing tight waist strings to hold up heavy clothing.

Permanent relaxation of the abdominal attachments is one of the most frequent causes of the condition we are now considering.

Why is the right kidney more subject to this abnormality than the left? The following is from Landau, who collected 173 cases—and of these the *right* kidney was affected in 152, the *left* in 12, and both kidneys were involved in 9 cases.

The liver has been the organ most blamed. Besides the presence of the liver, there are other anatomical peculiarities on the right side which deserve notice—the greater length of the renal vessels on that side, and the fact that the ascending colon is not so firmly bound to the right as the descending colon is to the left kidney, must have some effect in rendering the displacement more easy on the one side than on the other.

Pathological Anatomy. The changes which take place when a kidney becomes movable are limited to its surroundings; there is not necessarily any alteration in the structure of the organ, although there may be indications of organic disease.

Physical Signs and Symptoms. In the great majority of cases the patient accidentally discovers the tumour without the attention having been directed to it by painful or other sensations. When, however, it has become known that one of the kidneys is movable, it is not uncommon to find symptoms develop which are referred to the condition of the kidney. When the movement of the kidney is slight there may be no subjective symptoms developed, and it may be only after death that the condition is revealed. If, however, the movement is considerable, a tumour, of characteristic renal form, may be discovered on careful palpation.

As already indicated, the subjective symptoms may be entirely absent, or so slight as not to attract the attention of the patient or her medical attendant, and they may be chiefly of a local character. In the majority of cases, however, the patient becomes conscious, often, accidentally, of the presence of a movable tumour in the abdomen, and complains of a feeling of weight and uneasiness in one or both loins. The pain usually experienced is of a dull character, but may occur in severe paroxysms resembling nephritic colic, and when the kidney is manipulated or pressed upon, a sinking, sickening sensation is experienced.

Hydronephrosis is often connected with movable kidney, but whether it is to be regarded as a cause or as an effect is somewhat difficult to determine. It may be both.

Diagnosis. In the great majority of cases the presence of a movable tumor or can be easily made out. The diseased conditions with which movable kidney is most apt to be confounded are enlargement of gall bladder, small ovarian tumors, tumors of mesentery, and tumors of omentum.

Treatment. In some persons the inconvenience experienced from displacement of the kidney is not considerable, and very little treatment is required.

So far as the physical condition is concerned, the evident indication is to endeavor to replace the organ in its normal position and keep it there, and for this purpose various mechanical appliances have been proposed.

To patients suffering from this affection, all forms of exercise involving active or sudden movements of the body, such as running, dancing, jumping, or traveling over rough roads, must be strictly forbidden, and even long continued standing or much walking should be avoided.

Operative Treatment. There are instances where the patient cannot bear any form of mechanical appliance to her abdomen. The surgeon is, therefore, sometimes required to consider the question of operative interference. Some authorities regard operative interference as unjustifiable. When the patient is able to move about, or sit up in comparative comfort, with the assistance of an elastic bandage, then an operation should not be thought of. But it is otherwise when little or no relief is derived from milder modes of treatment.

1. *Nephrectomy.* Keppler claims that a movable kidney is a continual menace to the life of the patient, and that the danger should be removed by excision of the organ as soon as detected. Landau, on the other hand, believes that it seldom threatens life, and regards nephrectomy as unjustifiable. Of late years, great advances have been made in regard to operations on the kidney, but still the mortality from nephrectomies is very high.

When one kidney is excised, as a rule, the urine is immediately diminished in amount by a half; but if the other kidney be healthy, its secreting power is greatly increased, so that, within a few days, a normal quantity of urine is excreted.

In cases of movable kidney, where the organs are the seat of organic disease, unless the diseased conditions be strictly limited to the movable kidney, the operation seems unjustifiable, on the ground of the very high mortality; and where the case is one of uncomplicated movable kidney, then extirpation should not be thought of till nephrorraphy has been tried and failed. It is not right to excise an organ so necessary to life as the kidney, before making an endeavor to save it by a less heroic operation.

2. *Nephrorraphy.* When I saw my first case of movable kidney, in 1880, with Dr. Yair, I proposed not to excise the kidney but to stitch it to the abdominal wall. Stitching the kidney, by means of sutures, to the abdominal wall, seemed in itself a less dangerous operation than excision, and the future prospects more favorable.

Up to the present time the operation of nephrorraphy has been very successful, no deaths having occurred as a consequence of it, and in some of the cases the suffering of the patient has been completely relieved; in others the symptoms have been modified considerably.

The point of importance to be attended to in connection with floating kidney is that it cannot be reached by an operation from behind without opening the peritoneum, and is therefore not so favorable for nephrorraphy as movable kidney. This should be borne in mind while operating. It is not possible, however, previous to the operation, to distinguish, by physical examination, the two conditions.

Fortunately, floating kidney is a very rare condition, but nevertheless it must not be entirely overlooked where an operation is contemplated for the cure of the more common variety of displacement with mobility.—*Glasgow Med. Jour., August.*

OBSERVATIONS ON HYDROCELE, FOUNDED ON AN ANALYSIS OF ONE HUNDRED AND FIFTY CASES.

By ROBERT ABBE, M. D., Surgeon to the Out-Patient Department of the New York Hospital, etc.

In a paper published in the *New York Med. Jour.*, Dec. 22, 1883, Dr. Abbe says: In reviewing the notes of over one hundred and fifty cases of hydrocele, treated by me in private and at the New York Hospital during the past four years, I will cite a few cases of special interest, and note what points of management seem of practical importance.

In infancy one sees acquired hydrocele along the cord or in the tunica-vaginalis sac, or those communicating with the abdomen, "congenital," so called. Most of them, if left alone, would be cured by nature in the course of time, but if some treatment must be instituted, as a rule, the simpler this is, the better. I have had them disappear rapidly under the continued application of evaporating lotion, which, as it is invariably bound on with the clothing, acts not by evaporation, but by stimulation.

Long-standing infantile hydrocele commonly yields to puncture. The best method is to hold three or four surgical needles side by side between the finger and thumb, and while making the scrotal sac tense, rapidly repeat the puncture stroke, pricking as many as thirty or forty points. Endeavor to evacuate the sac thus, and the fluid left under the skin is quickly absorbed. *Hypodermic aspiration* is a simple, and, in time, effective remedy, but, as a rule, has to be often repeated. The *aston* is effective, but, unless removed at just the right time, say after thirty-six hours, it will set up a disagreeable suppuration of the sac, necessitating incision.

In the way of medication, I have seen hydrocele in children of six months to two years disappear on the administration of iodide of potash, 2 gr. t. i. d., for two or three weeks, the diminution in fluid beginning soon after treatment was begun. In the case of one child, whose hydrocele I frequently aspirated, a cure took place only after circumcision for phimosis and preputial adhesions, after which the hydrocele got well spontaneously, and, one year later, the sac was still dry.

In hydroceles of adults I have noticed, with few exceptions, what is not noticed in the text-books, that an induration of the epididymis co-exists,

either as a hardness of its entire body, or of the globus major or minor alone, showing a very subacute, painless, inflammatory action. This can be noticed only after tapping.

Encysted hydroceles are developed in the cellular plane investing the epididymis, and probably originate from an obstructed seminal duct. The fluid is invariably as colorless as water (strongly in contrast with the straw-colored fluid of the ordinary variety), or slightly milky from the spermatozoa in suspension, which soon form a sediment on standing. In some cases we find, on microscopical examination, living spermatozoa. The encysted hydrocele is said to be almost always small—half an ounce to two ounces or so—though Curling says he has seen one as large as twenty ounces.

Among quite a number of this variety I have seen two much larger than that—one of thirty-eight ounces, and another enormous one of forty-eight. One drachm of tincture of iodine was thrown into each sac after tapping, and a little inflammatory fluid returned in a month or so, as is usual, but was reabsorbed, and, one year later, both sacs were dry.

Thus, as I have found in smaller encysted hydroceles too, Curling's statement, that this form is not cured by iodine, is disproved. I think, in fact, that its cure is almost certain. This variety I have found exclusively in old gentlemen from fifty to seventy years.

Curative Treatment.—First. By internal administration of iodide of potassium in selected cases, cure may be brought about after tapping, where there is well-marked induration of the epididymis; even where (as is most often the case) there is no syphilis suspected. Of course, if this disease does exist, potash must be used.

Second. Injection with iodine will, if rightly used, be a competent curative method in most cases. I have resorted to it about forty times, and note the following points:

There is almost always some little shock after injection. I have once seen very profound shock. I should prefer not to use the iodine injection in a patient with weak heart. Occasionally, for some unaccountable reason, a case is utterly rebellious to this method of cure. After iodine injection one expects first an accumulation of some inflammatory fluid, rapid for a week or so, then slow, and finally a reabsorption, leaving the sac dry.

Third. Injection with pure carbolic acid, as demonstrated by Levis, of Philadelphia, has taken rank as probably the best method of radical cure of hydrocele.

I have resorted to it in about a dozen cases, and find that its two decided advantages are, that it gets up a grade of *plastic inflammation* different from and better than that by iodine, and that it is almost always painless and gives *no shock*.

One drachm of deliquesced crystals should be thrown through the cannula, distributed in the sac, and left. The scrotum should be well greased, to prevent the caustic action of the acid on the skin if a drop or two of it escapes from the cannula. Carbolic acid poisoning never follows this injection.

Finally, I regret to report one death following the simple operation of tapping without injection; there ensued acute inflammation of the sac, and phlegmonous cellulitis of the scrotum, with fatal exhaustion, due to his enfeebled condition. It was the only serious result of over one hundred and fifty cases, representing, perhaps, five hundred tapplings.

THE TREATMENT OF ORGANIC STRICTURE OF THE URETHRA BY ELECTROLYSIS.

By W. H. DUKEMAN, M.D., of Olean, N. Y.

Dr DUKEMAN has treated twenty-eight cases during the last two years without a single failure, and his experience in operating has taught him that the following rules must be absolutely adhered to. (*Medical Record*, January 5, 1884). Select a good galvanic battery which gives a steady, smooth, gentle,

constant current of the strength of from five to fifteen volts. The urethral instruments used for the dilatation of the stricture are bougies made of metal and insulated with rubber except the point, which is a silver bulb, olive-shaped.

Place the patient in the recumbent position, to the positive pole attach a sponge electrode moistened with water and placed in the patient's hand or laid upon the thigh. To the negative pole attach the insulated electrode bougie, and the instrument should always be inserted into the stricture before connections to the battery be made, in order to avoid any shock to the patient. The electrodes in position, make the connections with one or two cells of the galvanic battery, and gradually increase to the desired strength. It is always desirable to begin the operation with a mild current and increase one cell at a time. Mild currents in the majority of cases give the best results. The bougie must be gently guided, no force should be used, and no pain should be inflicted. The electrolysis alone has to do the work. Care must be exercised to keep the bougie in the line so that the point will not deviate and make a false passage. The operation should be repeated at intervals of from two to four weeks, as experience has taught that too frequent operations at short intervals are unsatisfactory.

CONGENITAL PHIMOSIS TREATED SUCCESSFULLY WITHOUT CIRCUMCISION.

By WILLIAM S. STEWART, M.D., Prof. of Obs. and Gynecology in the Medico-Chirurg. College, Philadelphia.

In a clinical lecture published in the *Med. and Surg. Reporter*, Feb. 2, 1884, Dr. Stewart describes a plan of conservative treatment for congenital phimosis. He gives the history of an illustrative case as follows:—Mrs. S— brings her child, aged eight weeks, suffering from what is called congenital phimosis. Attempting to retract the prepuce over the glans penis, we find ourselves unable to accomplish it, owing to an adhesion and contraction of the mucous or lining membrane, although the integument is not abnormally affected. On examining this boy, we find the penis, scrotum, and surrounding parts, inflamed in consequence of his inability to micturate freely.

I hold in my hand an instrument which although devised for another purpose, I have used in my private practice for several years for correcting these congenital accidents. As you see it has three blades, and by introducing it into the narrow opening of the prepuce and expanding them we can very readily stretch the contracted mucous membrane sufficiently to permit us to retract the prepuce until we can pass it behind the glans. Since adopting this method, I have not had occasion to perform circumcision, although in some instances the children had been suffering two or more years. Now, we will first place the child upon the table, on his back, and as this will not be a very painful operation, we will not administer any anæsthetic. I will now extend the prepuce in the line of the penis, asking an assistant to catch lightly one edge while I hold the opposite edge in my left hand thus separating the parts; with my right hand I press the instrument gently within the orifice of the prepuce until I touch the glans, being careful that the point of the instrument does not enter the meatus.

I will now gently expand the blades; having completed the expansion, I will withdraw the instrument and examine what has been accomplished.

We have succeeded in relaxing the redundant mucous membrane, but on withdrawing the prepuce back over the glans, I find persistent adhesion existing between them. This we will carefully correct by using a blunt instrument, as for example, a simple probe; and you observe as I near the corona I find deposits of caseous matter which have been secreted, and will be a source of irritation. This must be carefully removed and an application made of ung. petrolei to the parts—this being all that is necessary.

We have had a bloodless operation, and one attended with little pain, compared with the old method of circumcision. I will instruct the parent to retract the prepuce once daily, and to anoint the parts with cosmoline until our next clinic, when I will request to have him brought back, that you may be satisfied with the results of this method of treatment.

LATERAL URETHRAL STRICTURE; ITS DIAGNOSIS AND TREATMENT.

By JOHN A. WYETH, M. D., Professor of Surgery in the New York Polyclinic, etc.

In a paper published in the *N. Y. Med. Jour.*, Jan. 19, 1884, Dr. Wyeth writes: *Lateral urethral stricture*, that is, a cicatricial contraction following an inflammatory process in any portion of the urethral circumference and not involving the whole, is a condition admitted by surgeons almost without exception.

I propose to add to the evidence that lateral strictures exist, that they may be recognised and located, and that the cicatrix itself may be divided, not cutting blindly into the floor or roof of the urethra, as advised, but dividing the constriction proper, and restoring the urethra more nearly to its normal condition. I do not hold that lateral strictures are the rule. In my own experience they are exceptional; yet, when they do exist, the more exact we are in the application of our science, the more credit we achieve for surgery in the better results for our patients.

Dr. Wyeth then quotes from Gouley, Van Buren and Keyes, Sir Henry Thompson, Bumstead and Taylor, Agnew, Gross, Hamilton, Holmes and Otis, and says: Of the authorities just quoted as to the existence of lateral strictures of the urethra, Professor Otis stands alone in his denial of such lesion, asserting that a "true stricture always, and of necessity, completely surrounds the urethra. That it may have its origin, its commencement, at a single point in the circumference, is quite evident; but, as soon as the caliber of the urethra becomes lessened at any point, the resistance to the flow of urine which it necessarily occasions and the resulting interference with the harmonious muscular action produces an irritation in its whole circumference at the point of contraction, resulting, sooner or later, in an aggregation of fibro-plastic material not confined to a single point in its circumference, but around the entire canal." Holding Dr. Otis in high esteem, I cannot accept his sweeping denial of the existence of lateral stricture of the urethra. The weight of authority is against him.

Even if every stricture were linear and lunar, all writers agree that the opening is rarely in the centre. I hold, and the point I am making the endeavor to establish is this, that, when internal urethrotomy shall have been determined upon, the surgeon should, if possible, also determine the exact and minute character of the stricture, and, if it be lateral, instead of cutting on the floor or roof of the canal, he should make the incision or incisions through the thickest part of the cicatricial diaphragm, no matter in which direction it requires the knife to be turned. As to the proper line of incision in internal urethrotomy, the difference of opinions is only second to the different results at which urethrologists have arrived in determining the part of the urethra which is the most frequent seat of stricture. Personally, when the cutting operation must be done, I prefer to make the incision on the floor through the fossa, on the roof from the fossa to the bulb, and to treat all strictures of the membranous portion by continuous or gradual dilatation when this is possible, or by external section if patient efforts at dilatation have failed.

When, however, in the rarer cases, a lateral stricture can be made out, I cut the cicatricial band, no matter in which direction the plane of incision is indicated. I have performed this operation several times with satisfactory results. It is not one which will be often necessitated in the experience of the general practitioner, since the condition which might demand it will only occasionally exist; yet I claim that it is, both in the diagnosis and as an operative procedure, an addition to the exactness of our science.

SYPHILITIC AFFECTIONS.

SYPHILIS OF INFANTS AND HEREDITARY SYPHILIS.

By F. N. OTIS, M.D., Clin. Prof. of Venereal Diseases Coll. Phys. and Surge., New York.

In a paper in the *Aesculapian*, Jan. 1, 1884, Dr. OTIS says that *mercury*, in some form, must be introduced into the system of the infected infant.

It is not, therefore, a question of the medicine, but the *form* most easily assimilated, with the least disturbance to functions of infantile life. To avoid any possible disturbance of the stomach the mercurial agent should be introduced through the skin by *inunction*. The skin should be gently and thoroughly cleansed with castile soap and warm water every other day during the entire treatment, and this should be continued, not only as long as any manifestations of syphilis are present, but with intervals of a week every month for six months afterward.

If mercury must be given internally to very young infants, it should be given in doses so small that their efficacy is thus, to say the least, very questionable. In cases where there is reason to believe that the presenting difficulty belongs to the tertiary period, the iodide of potassium alone, or in combination with mercury, should be administered in the same manner, and in doses proportioned to the age or the child.

SYPHILIS AND BLINDNESS.

The *Journal of Cutaneous and Venereal Diseases*, December, 1888, gives the following translation from the French:—

Syphilis determines grave ocular lesions. It may produce blindness; it is a frequent cause of loss of vision; and this at any age—in infancy as well as in adult life.

All the membranes of the eye may be attacked with specific lesions, leading to destruction of the organ.

Most often the lesions are multiple: they rarely remain localized in a single membrane.

The ocular lesions of syphilis are most often indolent, and originate sometimes without the knowledge of the patient. Exception is made of iritis.

In the majority of cases, it is papillary atrophy which occasions the loss of vision.

Ataxia frequently shows itself in the syphilitic blind. Mixed specific treatment has considerable influence upon the ocular lesions of syphilis; a cure is quite frequent.—*Edward Binet, Th. de Paris, 1883.*

HYDROGEN DIOXIDE (H_2O_2) IN THE TREATMENT OF VENEREAL DISEASES.

By ROBT. W. STAMMER, M.D., of Chicago, Ill.

In the *Medical Record* for January 19, 1884, this writer calls attention to the use of hydrogen dioxide (H_2O_2), or oxygenated water, in the treatment of venereal diseases, as a local application for venereal sores, and as an injection in gonorrhœa.

In experiments performed by M. Miguel H_2O_2 is recognized as the most powerful destroyer of germ-life.

As an application for venereal sores I recognize its chief value in the fact that it answers every purpose of the caustics and escharotics used in the treatment of these diseases, *at the same time being painless*. My observations with this remedy extend over twenty cases of chancroid, all of which were relieved in a short time without the use of caustics or iodoform, and without pain to the patient. My treatment consists in applying H_2O_2 to the surface of the sore until all effervescence ceases, then cleansing the parts with plain water and applying a mixture of vin aromatic, glycerin, and rose-water in the following proportions: Vin aromatic, 3 ij.; glycerin, 3 j.; rose-water, 3 v. In the majority of cases the healing process commences at once, and in a few days the sore is entirely well.

As an injection for gonorrhœa, alternating with astringent injection, its use has proved most satisfactory.

THE EXCISION OF HARD CHANCRE.

Dr. A. RAVOGLI read a paper on this subject before the Cincinnati Academy of Medicine, which we find thus summarized in the *Cinn. Lan. and Clinic*, Dec. 8, 1883:

1. The excision of the hard chancre is a very easy and innocent operation.
2. Performed at the first appearance of the chancre, when the lymphatic glands are not affected, it can destroy the depot of the syphilitic virus.
3. It would be necessary to try this operation when the chancre is easily removed, not implicating the tissue of the glands, and when it does not leave ugly scars.

4. The excision of a chancre, if unsuccessful, has no influence on the consequent development of syphilis.

In three cases I had complete success, in one case failure. The first case was operated on five days after the first appearance of the chancre, the second after six days, the third after nine days. The fourth case was operated twelve days after the appearance of the chancre. In the first three cases the chancre was seated in the internal membrane of the preputium, in the fourth case the chancre extended to the tissue of the glands. I consider as a cause of non-success in the fourth case, the longer time during which the chancre remained, and the site of the chancre on the tissue of the glands, where its excision is more difficult.—*Med. and Surg. Reporter*, Dec. 29, 1884.

AFFECTIONS OF THE EYE.

SUGGESTIONS ON THE EXAMINATION OF THE EYES OF APPLICANTS FOR PENSION.

By J. L. THOMPSON, M. D., Prof. of Eye and Ear Diseases in the Med. Coll. of Indiana.

The following closed a paper published in the *Journal of the Am. Med. Association*, January 19, 1884:—

Cicatriztion of the superior palpebral conjunctiva, even though the eye looks perfectly normal, is a just cause for pension.

A slight nebulous opacity of the cornea is easily overlooked, except by oblique illumination.

Iritic adhesions are easily overlooked, except by the use of a very delicate and oblique illumination. They are seeds of ultimate destruction unless loosened. Look for syphilis when no other cause is apparent.

Progressive myopia has its origin in childhood, but may not seriously affect vision until much later in life. It is usually accompanied by staphyloma posticum and sclerotico-choroiditis-post.

Nystagmus (oscillation of the eyeballs) is usually accompanied by defective vision, and usually has its origin in early childhood.

Strabismus is generally an affection of early childhood, and when confined to one eye it soon very much impairs the visual acuity, and the subject has not binocular vision.

In total destruction of the cornea and in leucoma (large white opacity) investigate thoroughly for gonorrhœa.

Where the eye is turned from paralysis, and no evidence of wound of head, or eye, or of brain or spinal cord is seen, look for syphilis.

Senile cataract usually comes on long after the applicant has left the service, and although he may have evidence of granular lids or chronic conjunctivitis, and may be already on the pension rolls, still, in ninety-nine cases out of a hundred, the cataract is entirely independent of army life.

Presbyopia, when occurring in hypermetropes, affects vision for distant as well as close objects, and often leads the applicant to believe it to be incident to army life.

All lesions behind the lens are a sealed book, objectively, unless one resorts to the ophthalmoscope.

INHERITABILITY OF CONGENITAL CATARACT.

Dr. P. D. KEYSER, of Philadelphia, in an interesting paper published in the *Transactions of the Medical Society of Pennsylvania*, for 1888, gives an

account of a family in which there occurred nine cases of congenital cataract, extending through four generations, as follows:—

Great-grandfather—(Cataract.)

Grandfather—(Cataract.)

Son—(Cataract.) Nine children, four with cataract.

Son—(Cataract.) One child. Cataract.

Daughter—(Cataract.) Four children, one with cataract.

He had at different times operated for cataract on five of the children.—

S. T.—*Maryland Med. Journ.*, Dec. 15, 1888.

TEARS OF BLOOD.

M. DAMALIX has published in the *Archives d' Ophthalmologie* an interesting article on this rare phenomenon. A young girl, in the service of M. Panas, affected with non-convulsive hysteria, gave an account of being often affected with a discharge of blood, which soiled the handkerchief used in wiping her eyes. This discharge returned nightly during a specified time. Examination of the eyes showed that they were intact, the only noticeable affection being a marked blepharospasm, with photophobia and facial neuralgia.

There are a number of similar remarkable cases, the record of which leaves no question as to the possibility of such a hæmorrhage; in one case of Hasner's, and in another of M. Brun's, the observers saw the eye fill with liquid blood as it fills with tears, without the possibility of fraud. In the latter case, the microscope showed that the blood was very nearly normal.

But the tears of blood are absolutely independent of any ocular alteration, and their evolution is neither fixed nor regular. There seems to be no cause for their effusion. Without effort or pain these patients weep blood. At other times there are certain premonitory symptoms, such as frontal pain, brow pain, or pain at the root of the nose; or perhaps a tickling or pricking sensation, with a feeling of warmth to the eye-lids; then, as the discharge occurs, the disagreeable sensations pass off. These phenomena are essentially intermittent, sometimes regular, but nearly always transitory and coincident with the different hæmorrhages of the skin and mucous membrane.

Considered ætiologically, the only fact which can be determined from analyzing these observations is that these tears of blood constitute a passing anomaly in individuals that are anæmic and inclined to hæmophilia, and that they can act as supplemental to the menstrual flow, but that they occur especially in the hysterical women.—*Revue Médicale*.—*Journ. Am. Med. Ass'n*, Jan. 15, 1884.

AFFECTIONS OF THE EAR.

THE SUPPOSED CONNECTION BETWEEN EAR DISEASE AND KIDNEY DISEASE.

By CHARLES H. BURNETT, M. D., Prof. of Diseases of the Ear, Philadelphia Polyclinic.

In the proceedings of the *Philadelphia County Medical Society*, Dec. 19, 1883, we find the following:

Early writers on disease have shown a knowledge of the fact that alterations in hearing occur in the course of general diseases, as for example, in diseases of the kidneys. It was supposed by them that the alteration in the functions of the ear, in this form of disease, was due to changes in the auditory nerve. But the results of the more reliable modern investigations tend to show that if an ear disease be due to a kidney disease, the lesion usually occurs in the tympanic cavity, and not in the auditory nerve.

Certainly, accidents of a hemorrhagic or apoplectiform nature might be expected either in the tympanic cavity or internal ear, in Bright's disease, when we reflect upon the deterioration of the blood, and upon the malnutrition and friability of the vascular system, in the latter stages of the malady.

However, as late as 1856, Rau, in his "*Ohrenheilkunde*," published in Berlin in that year, claimed that there was not a solitary reliable observation at that time on record, in favor of any symptomatic relation between the ear and the urinary organs.

Dr. Burnett then gives a resumé of the literature of the subject as furnished by Schwartz, G. M. Smith, Roosa, Paul Pissot, Delacharrière, Von Troeltsch, Albert H. Buck, Maurice Raynaud, Politzer, and others, and reaches the following conclusions:

1. Evidence in favor of either frequent or well-marked aural lesions, dependent upon renal diseases, are extremely meagre.

2. Those lesions in the ear, which have been found in connection with Bright's disease and diabetes mellitus, and which may have been dependent upon the dyscrasia induced by these renal disorders, are in the form of sero-sanguinolent and hemorrhagic effusions into the drum cavity. But the latter must not be mistaken for the sthenic form of otitis media hemorrhagica.

3. From the serious nature of the membranous structures of the labyrinth organic changes might reasonably be expected in Bright's disease, but positive proof of the occurrence of such lesions based on ante and post-mortem history is wanting.

TREATMENT OF DISEASES OF THE EAR IN VIENNA.

By H. L. Moser, M. D.

This writer in a letter dated Vienna, Jan. 12, 1884, and published in the *Boston Med. and Surg. Journal*, Feb. 14, 1884, says:—At all the clinics for simple otitis media purulenta uncomplicated by profuse granulations or polypi, after syringing and carefully drying the ear, very finely powdered boracic acid is blown in. This powder is allowed to remain until it becomes moist, when it is immediately syringed out, the ear is again carefully dried and more powder is blown in. This should also be done by the patient at home as often as is necessary. As soon as the powder remains dry in the ear all treatment is stopped, and the powder gradually works its way out without the use of the syringe.

This treatment by means of powdered boracic acid has entirely superseded the use of astringent solutions, such as sulphate of zinc, alum, etc., which are now only used in exceptional cases where boracic acid has failed to check the otorrhœa. The results obtained seem to very good indeed. The best method of obtaining boracic acid of the proper quality is by precipitating it from a solution.

For cases complicated by granulations which are too small to be removed by the snare, and in the cases of children or adults who are frightened at the idea of being operated upon, alcohol is used. The ear is to be filled with this fluid three times a day, and the alcohol is allowed to remain for from twenty minutes to half an hour, the patient in the mean time lying with his head upon a pillow. If alcohol in its full strength causes pain it should be diluted at first, and its strength increased gradually. Alcohol may be combined with the boracic acid treatment or it may be used after the removal of polypi by the snare. Larger granulations and polypi are removed by means of the snare, the sharp ring, or are touched with caustic.

Ferrum sesquichloridum is recommended as a caustic at all the clinics. It is better than nitrate of silver as it causes less pain and penetrates deeper into the tissues to be removed, and so accomplishes its object more quickly. Urbantschitsch considers chromic acid, in its most concentrated form, the *very best caustic* to use for polypi or granulations, but it must always be applied through a speculum, and must not come in contact with healthy tissue, as when it does it causes great pain. If granulations bleed after being touched with chromic acid a tampon of cotton wool must immediately be inserted in order to keep the acid from coming in contact with the walls of the external canal. For tough fibrous polypi Urbantschitsch uses the galvano-caustic snare.

For both acute and chronic catarrh of the middle ear, besides the use of the air douche, catheter, etc., if the calibre of the Eustachian tube is dimin-

ished, bougies are passed through a catheter to the isthmus tubæ, and the canal is dilated up to the size of one and one-third millimetres. In some cases these bougies are allowed to remain twelve hours in a ten per cent. solution of nitrate of silver, and then dried before being used. The ordinary bougies remain in the Eustachian tube about three minutes; those which have been soaked in nitrate of silver from half a minute to a minute; but in any case if they cause sharp pain they are immediately withdrawn. Besides dilating the Eustachian tube they often act favorably in removing troublesome tinnitus, and it is not uncommon to find that after their use in one ear tinnitus of both ears is improved or ceases altogether.

Another method employed to mitigate tinnitus, which is often so annoying, is the use of electricity. The constant current is at first tried, and, if this fails to accomplish the desired end, the induced current is used.

The anode (copper pole) is placed upon the tragus, and the kathode (zinc pole) is brought in contact with some other part of the body, usually the side of the neck, or the hand. A very weak current is at first applied, and its strength is gradually increased, until the patient feels a sharp stabbing pain in the ear, or has severe tinnitus; the strength of the current is then gradually diminished, until it is once more at zero, *before removing the poles*.

The improvement due to electricity is sometimes permanent,—often only temporary,—and in some cases it has no effect upon the tinnitus. Electricity is also very often used by Urbantschitsch for otalgia, and gives very good, and in many cases permanent results.

For all recent cases of deafness due to labyrinthine disturbances, whatever the primary cause may have been, Politzer tries the subcutaneous injection of a two per cent. solution of the muriate of pilocarpine. He injects four drops at first, and gradually increases the dose to ten drops daily. He gets fairly good results in about one half of the cases. I have seen three cases of persons totally deaf, who, after being treated in this way, could hear and understand loud speech spoken at a distance of a few inches of the ear; and Politzer has had one case of perfect recovery of the hearing after it had been absent for three years, and several other very satisfactory results, following the use of this drug.

It is considered here a part of the otologist's duty to examine and treat the nose and pharynx, to remove adenoid vegetations, if they are present, from the posterior nares, to cauterize the mouth of the Eustachian tube, etc. For nasal polypi the ordinary snare, or the galvano-caustic snare, is used. For adenoid vegetations at the posterior nares, the galvano-caustic snare, or Stoerk's snare constructed for this purpose, is employed to remove the growths, or else they are repeatedly touched with nitrate of silver, burned with the galvano-cautery, pulled off with forceps, or scratched out with the finger-nail. In every case where the nose is found to be diseased, it is treated at the same time with the ear, and this is considered a very important aid to the treatment of the ear itself.

AFFECTIONS OF THE SKIN.

AN IMPROVED METHOD IN THE TREATMENT OF CERTAIN FORMS OF SKIN AFFECTION.

By P. ALBERT MORROW, M.D., Clin. Lect. on Dermatology, Univ. City of New York.

The method of treatment indicated in the title of this paper published in the *Medical Record*, March 1, 1884, consists essentially in the application of medicinal substances to the skin in the form of fixed, adhesive preparations. For this purpose the following methods have been employed.

First, applying the drug in the form of a powder or paste, and retaining it in position by means of a protective coating formed by a layer of collodion or a piece of gutta-percha tissue.

Second, by an admixture of the drug with a gelatine mass, which is painted over the surface, forming a thin adherent layer, with the addition of glycerine to render it soft and pliable.

Third, by the application of a thin layer of collodion or gutta-percha solution, holding the drug in liquid suspension.

Fourth, by incorporating the drug with adhesive plaster muslins, the basis of which is gutta-percha, which are cut into convenient shape so as to admit of accurate adjustment to the affected surface.

The advantages offered by fixed, adhesive applications are given as follows:—First, complete protection, and exclusion of the air from the diseased surfaces; second, fixation of the drug upon the affected parts, thus securing greater precision and permanence of action; third, maintenance of a gentle and uniform compression, thus modifying circulatory changes and limiting exudative products; fourth, comparative cleanliness.

The author believes he is justified, from a careful study of the results of their use in the hands of others, supplemented by his own experience, in formulating the following conclusions:—

(1). That the introduction of fixed, adhesive applications in the treatment of certain forms of skin affection, marks a veritable advance in cutaneous therapeutics.

(2). That they are admirably adapted for the employment of certain powerful stimulating drugs recently introduced into dermatological practice, as well as other standard drugs.

(3). That they constitute the most effective mode of applying drugs in certain pathological conditions characterized by hyperæmia of the dermas with inflammatory over-growth of the epithelial elements, as in psoriasis and dry, scaly eczema.

In conditions characterized by hyperplasia of the cuticle, as in callosities, corns, and over-growths of thickened, hardened epidermis, etc.; in conditions of capillary congestions of a passive character, as in acne rosacea, chronic erythema, etc.; in certain neurotic conditions, not only in essentially pruriginous diseases, as prurigo, but in the pruritis, symptomatic of other affections; in circumscribed lesions generally, as tinea circinata, tinea capitis, eczema marginatum, chromophytosis, syphilitic scleroses, lupus, and, possibly epithelioma.

PAGET'S DISEASE, OR MALIGNANT PAPILLARY DERMATITIS (THIN).

By S. SHEEWELL, M.D., Att'g Phys. Brooklyn City and L. I. Coll. Hospitals.

From *Am. Jour. Med. Sciences*, Jan., 1884. The number of cases so far reported, of this rare and interesting skin lesion, which was first brought to professional notice by Sir James Paget in 1874, is limited, and I have been able to find recorded only 27 cases, including the two herewith given. Paget, to my mind, gives the best description of the characteristics of this affection with which I have met, but he does not mention one peculiarity upon which Thin lays much stress, viz.: the papillary, soft warty epithelial projections, first occurring in and around the areola, and afterward on the parts nearer the periphery.

In conclusion, I will summarize what appear to me to be the diagnostic evidences of this disease:

1. The subjective symptoms, itching, burning, etc., are those of an eczema, and not those of an ordinary carcinomatous affection, but they are more marked than in an ordinary case of eczema.

2. The objective appearances are like eczema; the discharge is absolutely similar to that of eczema; it stiffens linen, and forms crusts entirely undistinguishable from those of an impetiginous eczema. The color of the surface is, perhaps, occasionally more livid, but the border is, in my opinion, not more sharply defined than is common in that trouble; the somewhat elevated appearance of the patch simulates exactly the acutely macerated and swollen conditions of the lower epithelial layers we so frequently find in eczemas. Sir James Paget compares the appearance to that of balanitis, an excellently apt illustration.

3. The disappearance of the nipple is spoken of by Henry Morris as a "melting away." I have used the term two or three times, as it seems the best to describe its gradual obliteration; certainly nothing like rapid ulceration takes place in typical cases, scarcely what could be dignified by the name of erosion. It disappears.

4. The retraction of the nipple or tissues immediately beneath, if retraction there be, is not to be distinguished as such, as is so easy in ordinary cancer.

5. The "malignant papillary" feature, as described by Thin, was a marked element of my first case, but much less so in the second. It is a very diagnostic point, and would of itself, I think, instantly resolve any doubts as between Paget's disease and a true eczema.

6. The extreme length of time may be noted in my cases before the appearance of anything like positive evidence of carcinoma. It will be noticed that Sir James Paget gives the limit as to this as two years. In my first case twelve years elapsed from the beginning of the attack to death, the latter event not seeming in any way connected with the skin lesion. In the second case considerably over the time mentioned by him has passed.

NAPHTHOL—ITS MEDICINAL USE AND VALUE.

By JOHN V. SHORMAKER, M. D., Physician to the Philadelphia Hospital for Skin Diseases.

We take the following from the *Trans. of the Philadelphia Co. Med. Society*: Naphthol is one of the remedies of recent introduction, and of the two products of that name the β naphthol is the one which was first used by Prof. Kaposi as a substitute for the tar preparations in skin diseases. It was thought by him to be the essential and curative ingredient of tar, while it was free from the objectionable features of the latter.

As carbolic acid has many disadvantages, and is not the decordant or antiseptic *par excellence*, the inodorous naphthol can certainly take its place in every respect.

I have found it to fully sustain the claim that Kaposi had made for it in scabies, psoriasis and chromophytosis, as well as in some of the chronic forms of eczema, in which it not only allayed the itching attendant thereon, but lessened the infiltration as well. In wounds and indolent ulcers I have found it a most useful detergent and deodorant, removing the fetor and establishing healthy action of the parts. Aqueous solutions, containing half a grain to the ounce, I have used to great advantage as vaginal injections, especially in leucorrhœa and uterine carcinoma, as well as in gonorrhœal affections, both in male and female. In diphtheritic throat affections it made a most useful gargle, as well as to remove the fetor of catarrhal and other affections of the buccal cavity. Its greatest value, however, arose from its disinfectant action of the evacuations of fever patients and rooms containing them, while by its absence of odor it did not tend to produce inconvenience both to patient and attendants. Combined with powdered talcum or starch, or both, and dusted into the shoes or stockings of those affected with fetid exhalations of the feet, it acts most satisfactorily, and its effects are equally as good in the same affection involving the hands, axillary and inguinal regions. Combined with other ointments in the proportion of from one to ten grains to the ounce, it not alone preserves the unguent from decomposition, but exercises also an antiseptic action to the parts and the exudation therefrom. A slight admixture to an experimental sample of lard has preserved the same in excellent condition throughout the hot summer months. In chronic psoriasis, particularly when there is great infiltration, a five to fifteen per cent. ointment has frequently been attended with good results. It has also been very effective in squamous and fissured eczema, used in combination with lard or gelatin.

After using naphthol so long and successfully without any untoward occurrence, I read to my astonishment and alarm that Dr. A. Neisser, in the *Contribut. zur die Medizinischen Wissenschaften*, 1881, No. 80, reported most extraordinary toxic effects obtained with naphthol, and that also Kaposi reported having seen hæmaturia, ischuria, vomiting, unconsciousness, and eclamptic attacks in a boy after the external application of naphthol. Also, that Squire reports in the *British Medical Journal*, January 14, 1883, of its producing blisters and irritating the skin.

Dr. Piffard regards it as a dangerous remedy, and Prof. Rapon, while he reports good results with it (*British Medical Journal*, p. 750) in scabies, prurigo, and eczema, advises in prolonged cases simple ointment to be substituted every fourth week, to avoid any possible risk of absorption.

To verify the accounts published concerning its toxic effects I instituted a series of experiments on rabbits and human beings.

Arriving at a *résumé* of my experiments, I must certainly proclaim the odorless naphthol, which I had received from Dr. Wolff, as not a toxic agent. It must be borne in mind that all my remarks apply to odorless naphthol—and that I consider that alone as safe for medicinal use.

TREATMENT OF URTICARIA.

Dr. McCall Anderson publishes a lecture on this subject (*Br. Med. Jour.*), from which we deduce the following on treatment: First, find out and remove the cause. In acute cases a sharp purge is useful, especially if there be indigestion. If indigestible food is still in the stomach give an emetic. Avoid stimulating diet. In chronic cases by varying the diet we may trace the offending article of food—malt liquor, spirit, white wine, vinegar, fruit, sugar, fish, vegetables, etc. In some cases complete change in diet is not of the slightest avail. When no cause is apparent, or the disease continuing after its removal, we must treat empirically. Most is, perhaps, to be expected here from atropia ($\frac{1}{100}$ grain subcutaneously at night or night and morning), and bromide of potash (gr. x three times a day). Continue till physiological effects are apparent. Occasionally a continuous current twice a day is useful, the positive pole being placed at the top the negative at the bottom of the spine. We may also try sulphuric ether, 20–40 drop doses, or quinine in full doses, or arsenic. Complete change of air, scene and occupation, may become necessary and a visit to Vichy is sometimes advantageous. Relief is obtained by sponging with vinegar and water, Cologne, or R. Acidi carbolici cyst., 3ij; glycerini (Price), 3vj; eau de Cologne, 3j; aquæ destillatæ, 3iv, or R. Chloralis hydratis, camphoræ, aa 3ss; misce et adde glycerini (Price), 3j, unguenti simplicis ad, 3j, or tarry preparations, as a lotion of equal parts of tar, soft soap and rectified spirit; the last may exceptionally yield permanent benefit.—*Maryland Med. Jour.*, Jan. 5, 1884.

THE LOCAL TREATMENT OF ACNE SIMPLEX AND ROSACEA.

In a recent thesis, an abstract of which we find in the *Journal of Cutaneous and Venereal Diseases*, M. Morin says that this can be satisfactorily carried out only by direct action upon the malady at its original seat. He takes a fine darning-needle, having an eye somewhat longer than that of a sewing needle. Holding this by the point, he introduces it into the affected gland by a rotary movement which causes some of the sebaceous matter to lodge within the eye of the instrument. The latter is withdrawn, cleansed, and re-introduced, and the operation is repeated once or twice until, the gland being emptied, its floor is touched by the needle, when a slight pricking sensation is experienced. The same needle, or another similar one, held in the same way, is then dipped in an alcoholic solution of iodine—of greater or less strength, but never weaker than that of the French pharmacopeia—and is again passed into the gland, charged with a drop of the iodine tincture, which is thus brought into immediate contact with the focus of the disease. After a few minutes a clear liquid, slightly colored by the iodine, will exude from the gland, sometimes in a drop as large as a tear. This flow will cease within an hour. Twenty-four hours later, in cases of acne simplex, the inflammation, when unaccompanied by suppuration, will have wholly disappeared. If suppuration, however, had existed, it will be found perceptibly diminished, needing only two or three repetitions of the process to effect its entire cessation, followed by a permanent cure. Rosacea, being of a more intractable character, requires the application to be made several times, when results equally favorable will certainly be obtained. The treatment produces no additional disfigurement.—*New York Medical Journal*.—*Am. Practitioner*.

MIDWIFERY.

AND DISEASES OF WOMEN AND CHILDREN.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.

By T. GAILLARD THOMAS, M.D., Clinical Professor of Diseases of Women and Children in the College of Physicians and Surgeons, New York.

This paper appeared in the *N. Y. Med. Jour.*, Dec. 15, 1883, and the writer says:—Of all the great benefits which have, within the past quarter of a century, been conferred by the advancing science of medicine, none has been more important than that relating to the prevention and the cure of the febrile conditions incident to the puerperium. The personal communicability of these dangerous diseases was fully recognized, but it was left for the establishment of the germ theory of disease to render their extreme contagiousness fully appreciated; to impress the facts that, with proper precautions, prevention was within the range of possibility, and that treatment based upon the knowledge thus given us might be made effective, and, to a great degree, certain.

Dr. Thomas then refers to the views, which from time to time, since the days of Hippocrates, have been advanced concerning the cause and nature of puerperal fever. From this he passes to the consideration of the condition of the woman, general and local, during pregnancy and the puerperal period, directing special attention to the local solutions of continuity which favor absorption of septic material.

The natural history of the ordinary local results of human parturition is given in the foregoing sketch, and in every case the offensive fluid, called lochia, poisons these freshly made, unprotected wounds. And yet what are the usual results? Recovery, uniformly, I might say universally, unless some unusual occurrence manifests itself to prevent this happy consummation! Theorizing about the matter, one would suppose that the mortality resulting from such a state of things must be excessive. And yet the facts are these: only one or two in every one hundred parturient women ordinarily die when properly cared for during labor, even in public hospitals. But now and then all this is changed.

And now comes naturally the question, What is the pathology of that affection styled puerperal fever? My observations have led me to adopt the views of those who believe that *puerperal fever is puerperal septicæmia*. It matters not what form it assumes, the essence of the disorder is a poison, which is absorbed into the blood of the parturient woman through some solution of continuity, and which, in the appropriate soil of the puerperal condition, fructifies and produces the result known, in its *ensemble* of pathological phenomena, as puerperal fever.

Prophylactic measures which should be adopted in all midwifery cases, whether they occur in hospital or in private practice:—

1. The room in which the confinement is to take place should have the floor, walls, and furniture thoroughly washed with a ten-per-cent solution of carbolic acid or mercuric bichloride, 1 to 1,000, and the bedstead and mattresses should be sponged with the same solution. Curtains, carpets, and upholstered furniture should be dispensed with as far as possible.

2. The nurse and physician should take care that all their clothing, both under and upper, be clean and free from exposure to the effluvia of any septic

affection. Should either of them have been exposed within a fortnight to the effluvia of such affections as scarlet fever, typhus, erysipelas, septicæmia, or the like, they should change every article of clothing and bathe the entire body, especially the hair and beard, with a reliable antiseptic solution; that which I prefer for this purpose is a saturated solution of boracic acid.

3. As labor sets in, the nurse, having thoroughly washed her hands, cleaned her nails with a stiff nail-brush, and soaked them in antiseptic fluid, should administer to the patient a warm vaginal injection of antiseptic character; bathe the vulva and surrounding parts freely with the same; repeat this every four hours during labor; and keep a napkin, wrung out of the warm antiseptic fluid, over the genital organs until the birth of the child.

4. Before the moment of labor, both doctor and nurse should wash the hands thoroughly with soap and water, *scrub* the nails with a stiff nail-brush, and soak the hands for several minutes in a bichloride solution, 1 to 1,000.

5. The third stage should be efficiently produced; all portions of placenta and membranes removed; and ergot administered, in moderate dose, three times a day, and kept up for at least a week, for a complete closure of the uterine cavity, expulsion of clots, and occlusion of the utero-placental vessels.

6. The doctor, taking nothing for granted, should, at the conclusion of the labor, carefully examine the vulva of the patient. If the perinæum be lacerated, it should be closed at once by suture, and, should slight solutions of continuity be found in the labia or the vulvar extremity of the vagina, these should be dried by pressure of a linen cloth, touched with equal parts of sol. ferri persulph. and carbolic acid, again dried thoroughly by pressure with the cloth, and then painted over with gutta-percha collodion. If this be thoroughly done, absorption will be prevented at these points for at least three or four days, when the application may be repeated.

7. After the labor, when the patient has rested, the vagina should be syringed out with an antiseptic solution, and a suppository of cocoa butter, containing from three to five grains of iodoform, should be placed within it, under the os uteri. A syringe with *intermittent* jet should be used, which will wash away with gentle force all blood-clots.

8. These vaginal injections and suppositories should, in cases of normal labor, be repeated every eight hours; in cases of difficult or instrumental labors, twice as often; and they should be kept up for at least ten days, the nurse observing to the last the precaution already mentioned of washing her hands before every approach to the genital tract of the patient.

9. When catheterization becomes necessary, it is safest to employ a new gum-elastic catheter, which before use should be thoroughly immersed in antiseptic fluid, and which should be destroyed at the conclusion of the case.

10. Last, but by no means least, let the physician inform himself by personal observation as to the competency of the nurse to syringe out the vagina thoroughly, to place the antiseptic suppositories just where they should be, and to use the catheter without injury to the patient.

It is clear that all this will make the process of parturition in the future a more important event than it has been regarded in the past, and she who is about to bring forth will be treated as one about to go through the perils of a capital operation. This is just what I think ought to take place, and, when it does so, thousands of valuable lives which are now lost will be saved.

Before leaving this part of my subject, let me in the strongest manner record my protest against the use of *intra-uterine injections* as a prophylactic measure, except after very severe operations within the uterine cavity, which render the occurrence of septicæmia almost certain. As a preventive measure, to be uniformly adopted, I look upon it as to the last degree rash and reprehensible.

Treatment of Puerperal Septicæmia.

1. As soon as a diagnosis of septicæmia is determined upon, all pain, nervous perturbation, shock, and mental anxiety should be quieted by the hypodermic administration of ten minims of Magendie's solution of morphine, unless some special and very decided idiosyncrasy with reference to opium be ascertained to exist; and throughout the severity of the attack, whenever suffering of mind or body occurs (perhaps it will be about once in every six or eight hours), this should be repeated.

3. The physician must now decide whether, in his opinion, the septic disease which is developing has originated in the wounds situated between the os internum uteri and the vulva, or in the endometrium, above the former point. If he decide in favor of the former view, he should persist, for a time longer, in the more thorough use of vaginal injections; if of the latter, intrauterine injections should be at once resorted to.

That the use of antiseptic uterine injections after parturition is attended by danger is beyond question; but these can, to a very great extent, be avoided by care in the details of their administration.

The frequency of the intra-uterine injections should vary greatly with individual cases. In mild cases of septicæmia, where the temperature comes readily down after the uterus has been washed out, and rises very slowly, they need only be used once in every five hours; and in bad cases they are required once every hour. These injections should always be administered by a physician, should always be carried fully up to the fundus uteri, and should always be used with every care and precaution.

3. The uterus having now been thoroughly cleansed, and the patient entirely quieted, attention should be turned to controlling the temperature. For this purpose I formerly relied upon the affusion of cold, or tepid water, the patient lying upon Kibbee's cot; at present I accomplish the same result more easily and more pleasantly for the patient by the use of Chamberlain's rubber tube coil.

Its prolonged use alone develops and illustrates its great benefits; and removing it from the body for an hour at a time damages its influence very much. I have never seen evil result from the chilliness which it excites, if hot bottles be kept at the soles of the feet, and in not one instance, out of hundreds of cases, have I seen pneumonia or pleurisy excited by it.

4. The nervous system should be so kept under the influence of febrifuge medicines as to keep under control the tendency to chill and pyrexia. For this purpose fifteen grains of the sulphate of the quinine should be given in capsule or by suppository night and morning. Lastly, to the same end the salicylate of sodium may be employed.

5. The patient's diet should consist entirely of fluid food, given often and in small amounts. The staple article should be milk, but animal broths and gruels may be alternated with it with advantage.

6. At the very commencement of such a case the attending physician should, in the patient's interest, surround himself with efficient and abundant assistance.

The antiseptics which have heretofore been tried under these circumstances are thymol, boric acid, salicylic acid, carbolic acid, and mercuric bichloride. For all antiseptic purposes outside of the uterus, the bichloride is now very generally employed in the strength of 1 to 1,000, and the uterus has now been washed out with this excellent germicide, 1 to 2,000, often enough to make us regard its use, as an intra-uterine injection, as entirely warrantable.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.

By FORDYCE BARKER, M. D., LL.D., President of the New York Academy of Medicine.

We take the following from the *N. Y. Med. Jour.*, Feb. 9 and 16, 1884. In the paper we are now to discuss, the author distinctly avows his belief, without any qualification, that "puerperal fever is puerperal septicæmia," and that "it matters not whether it assume the form of metritis, phlebitis, cellulitis, peritonitis, or lymphangitis, the essence of the disorder is a poison, which is absorbed into the blood of the parturient woman through some solution of continuity."

The tendency to this pathological view has been rapidly growing within the past few years, excited chiefly by the important investigations of our German co-workers, who have so zealously studied the character and effects of the micro-organisms in puerperal women in hospitals. No one as yet has maintained that the process of parturition and the puerperal state exempt a

woman from those causes which induce local inflammation in the non-puerperal, or will deny that the process of parturition, and other attendant conditions besides the absorption of septic poison, may be the efficient cause of local inflammation; and I here state my conviction that in private practice, when there is no epidemic influence, twenty cases of local inflammation, due to such causes, will be met where one will be found due to septic absorption.

The author of this paper regards certain conditions, which always are found following normal labor and always occur in normal puerperal convalescence, as pathological, but which I believe to be purely physiological. The lochia are described as an offensive fluid, made up of dead and decaying animal tissues, which poisons freshly made unprotected wounds. Can it be true that the process necessary for the birth of the human race is always attended with the development of a deadly poison whose malignant effects must inevitably prevent the spontaneous and kindly healing of such little traumatisms as always result from the process, and that, therefore, it is the duty of the accoucheur to take preventive measures of the character proposed? Does every parturient woman, in performing the function of maternity, physiologically generate a fatal poison in a corresponding locality, which the obstetrician must guard against by means that are most inconvenient, alarming, and not altogether free from danger?

All we know of any disease is derived from the study of its ætiology, its clinical phenomena, and its anatomical lesions. This epidemic disease differs in all characteristic points from what is known as septicæmia. It differs in its origin, its modes of attack, its symptoms, and its anatomical lesions. The symptoms are frequently manifested a day or two before or even during labor, even when the child is subsequently born alive. In septicæmia the symptoms are never observed before or during labor, except when the fœtus is putrid. Puerperal fever, originates from epidemic causes, and from contagion and infection. Septicæmia from nosocomial malaria, from autogenetic infection, and from direct inoculation. Can a woman after childbirth be exposed to the danger of receiving the poison which produces septicæmia in larger doses than when she has retained in her uterus a portion of putrid, decomposed placenta? Yet I do not believe there is a single person who has had considerable obstetric practice for twenty years who has not had more than once to remove portions of putrid placenta which has been retained for days, and the patient has had no disturbance of such severity that he would call it puerperal fever.

Before leaving this part of the subject, I will briefly allude to one other point, which strikingly illustrates the difference between puerperal fever and septicæmia. I think there can be no doubt that the majority of the profession believe that all those causes of nosocomial malaria, such as aggregation, bad ventilation, contact with septic material, etc., which have a tendency to induce septicæmia in surgical cases, have an equal tendency to develop the disease known as puerperal fever in women recently confined. But this does not prove that the diseases are identical, for I think there is abundant evidence that while these causes are always requisite for the development of surgical septicæmia, puerperal fever may be a very epidemic when these causes are wholly wanting.

From these considerations, I think that, if all the knowledge of this disease be derived from authors who have studied it in hospitals exclusively, it will be limited and one-sided, and the deductions, both as to its pathology and as to its treatment, must in many instances be erroneous and unsafe. My conviction is strong, based partly on individual experience, but chiefly on a careful study of a clinical midwifery reports of private practice and all the literature of the subject in my possession—and this is very full as regards the English and French languages—that, outside of hospitals, less than two per cent. of the puerperal diseases, and not half of one per cent. of the deaths after childbirth are due to septicæmia. There are no statistics of private practice which demonstrate the error of this opinion. The belief of the septicæmists that terrible dangers threaten every woman in childbirth is based wholly on theory.

With regard to the prophylactic measures which should be adopted in all midwifery cases, if all or even a considerable part of the details mentioned are necessary "to save thousands of lives which are now lost," then it seems to me evident that the State should make child-bearing a penal offence for all of those families who do not have sufficient annual income to make it possible to carry out all these requirements.

As to diagnosis, I cannot regard the symptoms mentioned, even in their totality, as pathognomonic of septicæmia, as all of them are to be found in other puerperal affections, when there is no evidence of septic absorption, unless, with the author, it be assumed that all puerperal disturbances are due to this cause alone.

In puerperal fever, as met with in private practice, we have to treat the consequences of some form of blood-poisoning. This may or may not be septic poisoning. In private practice, I think it is generally due to some occult, possibly atmospheric, epidemic influence; in hospital patients, nosocomial malaria, often associated with septic poisoning.

No treatment which interrupts the normal physiological processes—such as the retrograde metamorphosis of involution, the fatty transformation of the component fibres of the uterus, or the cicatrization of its internal surface by the exudation of organizable lymph, and the development of a new layer of mucous membrane, or the healing of traumatic lesions—can be justified, unless positive symptoms, now well understood in science demonstrate their necessity.

Antiseptic injections, both vaginal and intra-uterine, are of great service when the indications for their use are clearly shown by local signs or general symptoms, but they cannot be recommended with safety as a routine practice on theoretical grounds, as, for obvious reasons, they may be most detrimental in retarding the cicatrization of lesions and the other processes of normal convalescence, and are otherwise sometimes dangerous.

In regard to refrigeration as a means of reducing fever in puerperal diseases, I have no question that it may be useful in some cases, but my own experience in this method of treatment has not been favorable.

Very early in my practice I began to direct the use of vaginal antiseptic injections for the first week after labor, the antiseptic being Labarraque's solution. When I went on duty in Bellevue Hospital, now nearly thirty years since, this was made the invariable rule in the lying-in wards. Subsequently carbolic acid was substituted, and I gave a formula for its proportions in the work on "Puerperal Diseases." I have habitually directed its use in all my obstetric cases until the past two or three years.

Since September, 1882, it is only in a small proportion of my obstetrical cases that I have seen any reason for ordering even vaginal injections, and Dr. A. A. Smith, who frequently visits my patients, informs me that this is true of his own cases. We both can declare that since that, including even instrumental deliveries, we have not had a single case in our practice which during the puerperal period has given us any anxiety or required more than an ordinary attendance of one daily visit for nine days.

[Discussion continued. From the *Medical Record*, Feb. 16, 1884].

Dr. W. M. CHAMBERLAIN, *Visiting Physician to Charity Hospital*, while commenting on the criticisms made concerning the tube which bears his name, said:—This suggests a point of much diagnostic value, as it seems to me, in determining in what cases intra-uterine injections should be employed and when they should be omitted, or if employed, suspended. There are different grades of septicæmia, such as sometimes follows after slight breaks in the mucous membranes of the genital passages, a little tear of the cervix, vagina, or perineum, and is marked by a gradual rise of the temperature day by day, until, a week or more after delivery, the patient may come into a critical condition. This is the analogue of surgical fever, and is to be distinguished from the explosive form, which is generally seen within forty-eight or seventy-two hours after delivery, ushered in by a sharp chill, lochial fetor, rapid rise of temperature, restlessness, anxiety, and prostration. When this exists, so far as I know, it always suspends the process of involution. the uterus becomes relaxed, the discharges accumulate in it, and are partially

retained, and the uterus becomes a hot-bed where the spawn of microbes will fructify in profusion or the virus of putridity may ferment unrestrained. These are the cases I believe, which require antiseptic uterine injections, and in these the os is so patulous and so soft that a large tube will pass readily, by its firmness will give a leverage which will lift the soft anterior lip, and leave beneath it a space for free exit of the injected fluid.

I repeat it, that I find no occasion for irrigating an uterus in which the process of involution is going on at or about the normal rate, for such an uterus does not contain the septic material to be washed away.

Dr. H. T. HANKS, *Assistant Surgeon to the Woman's Hospital*, says:—I have obtained from the President of the Board of Health the statistics of *deaths*—not cases treated—from puerperal causes during the last four years, and I find that the startling fact is here manifest, that for the last four years in New York City, out of 120,418, puerperal women, there have been 1,005 deaths from puerperal fevers or one death in every 120 women who have borne children.

During the last fifteen years I have had two and sometimes three cases of puerperal fever, not always three deaths, from so-called puerperal fever. I have had no case that I could not satisfactorily explain as caused by absorption of the poison at a certain point of the genital tract.

Commenting on the prophylactic measures recommended in the rules laid down in the paper by Dr. Thomas, he says:

In the *treatment* of puerperal septicæmia I can only concur with every suggestion Dr. Thomas has made, and would add only one remedy to the list of therapeutic agents which he has recommended. and this is aromatic spirits of ammonia, given in one-half teaspoonful dose, diluted with brandy-and-water and generally given every two hours.

Mr. PAUL F. MUNDE, *Visiting Physician to Maternity and Mt. Sinai Hospitals*, says: More recently it had become his custom to treat puerperal fever locally, precisely as though the case were one of septic wound and he had arrived at the conviction that puerperal fever was, properly speaking, puerperal septicæmia. Although he had reached this conclusion, he wished to qualify the statement. He had seen cases in which, in the entire absence of evidence of infection of the uterus or of the perineum, he could not help feeling that the condition was something different from what is found in cases of septic infection. He could not help feeling that there were cases in which one could not exactly trace the source of the trouble to septic infection. He was obliged to subscribe, in short, to the views of the honored president, that there were some forms of puerperal fever which we could not call puerperal septicæmia. Regarding the etiology of puerperal fever, it seemed we would have to subscribe either to the view that puerperal fever was puerperal septicæmia, or else that there was a peculiar form of puerperal fever, puerperal fever proper. At any rate, whenever he had a case of fever during the puerperal state, with offensive lochia, he took the risk of washing out the uterus, and if it were not necessary, he felt that if properly done it probably would do no harm. Concerning vaginal injections as prophylactic treatment, he himself had employed them, although he must admit that the objections which had been offered to the practice might have some foundation. He agreed with Dr. Lusk, that, when the temperature remained high despite the injections, the victorious army had probably gone on into the general system, and our washings simply brought away the rear-guard, and were liable to do more harm than good if continued.

Dr. WILLIAM THOMPSON LUSK, *Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, etc.* While it is my desire to confine my remarks to the local treatment of puerperal fever. I would say that, in my opinion, surgical fever and puerperal fever are not simply analogous, but are essentially one and the same process.

Much confusion has been occasioned by the failure to classify as distinct from puerperal fever the action on the puerperal woman of certain extraneous poisons, such as those of scarlatina, of typhoid, and malaria, which are so modified by the puerperal state as to lose some of their characteristic features, and to present many of those usually attributed to puerperal fever.

Again, certain differences in the symptoms of surgical and puerperal fever are due to differences which are purely anatomical. The entrance of poisons into the system through a clean-cut stump necessarily would be attended by phenomena somewhat different from what would be produced by the same poison when introduced through a puerperal wound.

Again, it should not be forgotten that in puerperal woman a special danger exists in the proximity of the peritonæum to the seat of infection.

But, even where differences in symptoms are not explicable upon anatomical grounds, we still find surgical and puerperal fever linked together by the presence of the round bacteria. Both diseases are of septic origin.

With regard to prophylaxis, my experience does not entitle me to expect great results from washing the floors, walls, and furniture with antiseptic solutions. At least in the lying-in hospitals, where I have witnessed many epidemics of puerperal fever, there has been a time when everything was vigorously scrubbed; but I have never observed that these precautions exerted the slightest influence in the prevention or the stamping out of puerperal fever. The fumes of sulphurous acid have since been substituted for the old-time scrubbing with the best results, and I would strenuously recommend the modes of disinfection employed by the Board of Health in all cases where there has been previously scarlatina, diphtheria, typhoid, or erysipelas in the household. I would here state that a woman ought never to be confined in the chamber adjacent to the bath-room, as I believe that puerperal women are extremely sensitive to sewer-gas poisons.

In normal confinements there is no evidence that decomposition ever occurs normally in the uterine cavity. In the vagina, on the contrary, all the conditions favor putrefaction. Where labor has been normal and there has been no needless interference with its progress, if the vagina is thoroughly cleansed it is rarely necessary to carry the injection into the uterine cavity.

In cases of difficult labor, on the contrary, where the hands or instruments have been introduced into the uterus, the intra-uterine douche is often the direct means of saving our patients' lives. It will, however, be far better if the disinfection is employed, not after the symptoms of poisoning have developed, but immediately after labor. The douche is then harmless, it stimulates the uterus to contract, and is a powerful means of preventing subsequent dangers. The douche, however, is not infallible. Washing the uterus after the pelvic tissues are infiltrated with septic microspores may cut off the reinforcements, but does not prevent the progress of puerperal septicæmia. I would advise, therefore, not to continue the uterine douche in cases where the results of the first thorough injection furnish the evidence of its impotence.

Dr. T. GAILLARD THOMAS closed the discussion, and said: Mr. President and Gentlemen: I shall not detain you long. I have little to say, for Dr. Barker's attack calls for no rebuttal, and demands no argument on my part.

So far as I can gather anything certain from his discursive paper, the pivotal idea of Dr. Barker's attack seems based upon the belief that I regard the lochial discharge as a poisonous fluid, which, by absorption, by abrasions in the genital tract, gives rise to puerperal septicæmia. I need not tell you that such a no absurd idea ever obtained foothold in my brain or enunciation from my tongue. Look at my essay, which is now in print, and you will see that I stated merely that the lochial discharge was a material ready to take on those alterations which are effected by micro-organisms of bad character, which, changing its nature, render it poisonous to the abraded tissues.

The crucial questions, Fellows of the Academy, which are before you to-night are these: 1. Are you to look upon puerperal septicæmia as a poison due to the development of micro-organisms, and are you by every means in your power to guard against the contact of these with the genitalia of the puerperal woman? 2. When the disorder is developed, is it best for you to keep your patient semi-narcotized and quininized, while the distended abdomen is covered with stupes of turpentine or poultices, and await the result, as has formerly been done; or are you to seek to counteract the septic process which has invaded the genital tract, by local applications? These are the momentous questions; the other points are non-essential ones, and,

although important in some respects, sink into insignificance when compared with them.

As to the use of vaginal injections every eight hours, beginning eight hours after delivery. The arguments which have been brought up against this practice since I read my paper have had great weight with me; I confess that I feel less firm in my convictions upon this point than I did, and that in future I shall examine the question carefully before I determine to adhere to my plan. You may ask, Why this change of opinion? My answer is that I strive to mend the fault of yesterday with wisdom of to-day.

With regard to intra-uterine injections, I fear that I have expressed myself in such a way as to allow it to appear that I resort to them with very little provocation and upon all occasions when hyperpyrexia supervenes after childbirth. No impression could be more erroneous. No one could have striven more than I have done to keep within proper bounds the indiscriminate use of this valuable but dangerous resource.

I have not been surprised to notice a tendency on the part of some to ignore the necessity for them, especially in private practice. That this would in all probability be done I suggested in my paper, and I came here this evening prepared to use some statistics which would invalidate this position.

And now methinks I hear a whisper to this effect: "These are the statistics of hospitals; the disease must be rare in private practice, for does not Dr. A. tell us that he, out of 500 cases, has had no deaths; Dr. B. that out of 1,000 he has had none; and Dr. C. that out of 1,500 he has met with only one." Patients are constantly dying from this cause in private practice, nevertheless. It is now just two months since I read my paper, and during that time I have been called to five cases of puerperal septicæmia, four of them, at least, in the higher walks of life, and all four of the most desperate character.

ANTISEPTIC OBSTETRICAL METHODS.

By W. W. JAGGARD, M. D., of Chicago, Ill.

In the *Medical News*, January 26, 1884, this writer says: Prof. CARL BRAUN practised antiseptic methods in obstetrics with critical exactness in the Vienna Lying-in Hospital before the discoveries of Weber, Billroth, Pasteur, Schwann, Koch, and Lister were made known. It is the object of this paper to sketch briefly one of his contributions: Vienna Antiseptic Obstetrical Methods.

I. *Hospital Ventilation.* Ten wards of the so-called new wing of the Vienna General Hospital have been used, *without interruption*, from 1884 to the present time, for the practical instruction of physicians in obstetrics. The paramount importance of perfect ventilation received immediate recognition upon Braun's accession to the control of the hospital.

Braun says upon the subject of hospital ventilation (*Gynäkologie*, p. 884): "I have arrived through practical observation at the recognition of the fact, that the rapid and effective prevention of putrefaction by means of generous and adequate ventilation, is to be regarded as a good prophylactic rule against puerperal fever; that not the greater number of puerperal women who are annually cared for in a hospital, and not the greater number of puerperal women in one room, but the insufficient change of air in a cell for one individual in the smallest hospital, is to be regarded as the important factor in the spread of puerperal fever; that puerperal women, therefore, in order to be effectually guarded against puerperal fever, must be isolated, not by insulated houses and gardens, not by stone walls, but by the continuous conveyance of large quantities of fresh, pure, warm air by means of a cheap, practicable, easily executed method."

II. *Treatment during last weeks of Pregnancy.* During the period prior to confinement—a space of four or six weeks—the pregnant woman is compelled to take baths at regular intervals, and her axillary temperature is carefully noted. Her last act before entering the lying-in chamber is to take a warm bath, in which soap is vigorously applied.

III. *Treatment during Parturition.* Upon entering into the lying-in chamber in the first stage of labor. If her temperature is pathological, she is transferred at once to another ward. Vaginal examination is permitted an individual upon the conditions: (1) that for the space of twenty-four hours preceding, he has not been within the sphere of contagion of any zymotic disease, and that his hands have not come in contact with any wound or cadaver; (2) that his hands are absolutely clean.

After a vigorous application of soap and nail-brush in a two and a half per cent. solution of carbolic acid, the hands are rendered thoroughly antiseptic. Before making the examination it is customary to dip the exploring finger into a solution of hydrochloric acid in glycerine.

During parturition it is usual to douche from time to time the external genitals with some antiseptic fluid. In every case of protracted labor, after rupture of the bag of membranes, sitz baths at regular intervals are enjoined.

When operative procedure is indicated, the vulva and vagina are thoroughly irrigated with a two per cent. solution of carbolic acid before the introduction of any instrument. Extreme attention is paid to the exclusion of air from the uterine cavity during the process of irrigation. After the completion of the irrigation, a *bacillus*, containing five grammes of iodoform, is introduced within the uterine cavity; and equal quantity is usually placed within the vagina.

Perineal ruptures and episiotomy wounds are carefully cleansed and immediately united by *serræ-fines* or sutures. Contused and lacerated wounds of the vagina are painted over with neutralized tincture of sesquichloride of iron, acetic clay, tincture of iodine, Goulard's extract, thymol, or carbolic oil. All wound surfaces are finally dusted over with iodoform powder.

The axillary temperature of each patient is taken and recorded at intervals of three hours, during the entire period of parturition. If the temperature becomes abnormally high, the patient is at once isolated.

In a recent lecture upon this subject Braun said: "I am perfectly convinced that every parturient woman in a febrile condition on account of endometritis, with or without *tympanites uteri*, possesses the capability of infecting, during her stay in the room; whether the transport of the pernicious influence is effected by the examining finger or by the polluted air penetrating the vagina, I should like to leave undecided. I, myself, hold that the one as well as the other mode of transport is possible."

IV. *Treatment during the Puerperium.* Immediately after labor the soiled linen is removed, and the patient enveloped in linen sheets heated to 100° C. [212° F.] After the patient has had a brief period of sleep, the midwife cleanses, with a bit of absorbent cotton, the skin of thighs, abdomen, and vulva, and wipes the surfaces dry with a clean, warm towel. Sponges have been for years banished from the clinic. The rules for the further treatment of the puerperal condition are:

1. A rapid healing of the uterine wound is best effected by quiet, restricted diet, and absolute cleanliness. To maintain cleanliness, it is seldom necessary to inject lukewarm water into the vagina, and still more rarely are we compelled to irrigate the uterine cavity.

2. To prevent the resorption of the pus secreted by the uterine surface (a) to fill all the bloodvessels to their maximum capacity, by the exhibition of generous quantities of lukewarm, sweetened drinks; (b) avoid depletion by diuretics, diaphoretics, or purgatives.

3. Secure uterine contractions during the third stage of labor, and in the early hours of puerperium, even if no *post-partum* hemorrhage is threatened. This rule is especially imperative during the existence of epidemics of puerperal fever. Uterine contractions may be secured by massage of the abdomen and fundus, application of a binder, or the exhibition of ergot.

4. Puerperal ulcers of the genitals, caused by the irritant action of the lochial secretion upon the traumatic effects of labor, must be rendered proof against the resorption of pus, during the first eight days, by the local application of potassium permanganate, basic sesquichloride of iron, or tincture of iodine.

5. To arrest the fermentation process in the blood, or to limit its pernicious tendencies, five to fifteen grains of quinine may be exhibited daily with

advantage. Axillary temperature of 89° C., [102° F.] pulse frequency of 100, dysphoria, constitute indications for the immediate use of the drug.

A PLEA AGAINST PROPHYLACTIC INJECTIONS AFTER NORMAL LABOR.

By SIMON BARUCH, M. D., New York.

The following is from the *N. Y. Med. Jour.*, Jan. 5, 1884:—At this juncture it would indicate a certain degree of temerity to raise a voice in opposition to the doctrines now promulgated in this country in favor of antiseptic injections for purposes of prophylaxis in labor and childbirth. But I cannot subscribe to the necessity of resorting to *vaginal antiseptic injections even for purposes of prophylaxis*. The idea cannot be successfully maintained that there is any similarity between an artificial traumatism and the utero-vaginal surface after labor in the matter of prognosis.

The natural course of an artificial wound is in the direction of kindly healing; this is exemplified in severe fractures (subcutaneous). In gynecology the same conditions exist as in other surgical operations. But, when we come to the utero-vaginal tract *after labor*, quite another experience confronts us. Here, too, we have a traumatism, not artificially, but naturally induced in a physiological process, and the vast majority of puerperal women escape sepsis altogether. The latter is chiefly prevalent in maternity hospitals, and, in late years, since the gospel of *cleanliness* has been diffused among the profession, these institutions present, in many instances, as good a record as can be found in private practice.

Although I earnestly oppose antiseptic injections for purposes of prophylaxis, I would enter zealously into the "curative measures" proposed by Dr. Thomas, especially on the first symptoms of a rising temperature attributable to septic or unknown causes. But even in these cases I would suggest that an over-anxious interference by energetic and frequent uterine irrigation may not be necessary, and should be reserved for the more serious cases.

If, therefore, I should observe after any normal labor a rise of temperature, not attributable to causes unconnected with the local puerperal condition, or even not traceable to any known cause, I would give the patient the benefit of the doubt and begin antiseptic treatment. The same should be resorted to if the lochia present evidences of decomposition, or if a chill or general malaise cannot be accounted for.

The disinfecting injections and the iodoform pencil (150 grs. pulverized iodoform, 15 grs. each of gum arabic, glycerine, and pure starch) should be renewed whenever the lochia again becomes offensive, or, if the temperature continues to rise, each time preceding the pencil by irrigation with a solution of bichloride of mercury, 1 to 2,000, or even weaker. It is important that the solution should not be hot, because a high temperature will constrict the parts for a time, and prevent the local action of the iodoform; a temperature of about 90° F. is proper.

THE TREATMENT OF RETAINED SECUNDINES AFTER ABORTION.

By JOHN W. BRANNAN, M.D., of Colorado Springs.

The following is a synopsis of a paper published in the *Boston Med. and Surg. Journ.*, Feb. 14, 1884:—

The gynecologist insists upon the immediate removal of the retained membranes and placenta by manual or instrumental means; the general practitioner believes that this is nature's task, and that the physician should not interfere unless the symptoms are urgent. The former fears the present risk of hæmorrhage and the future risk of septicæmia; the latter fears inflammation as a result of uterine manipulation. Such is a brief statement of the points at issue between the disputants.

On consulting the obstetrical literature of the last twenty-five years we find the same difference of opinion that now exists in the profession. The

earlier writers of this period, however, are agreed in advising the expectant treatment of retained portions of the ovum: Tyler, Smith, Bedford, Meigs, Ramsbotham, Hodge, Churchill. Leishman advises us to preserve an expectant attitude if the membranes are retained, unless the hæmorrhage be alarming. In the latter case he tampons the vagina.

We now approach the period in which modern gynæcology has made its greatest advances, and its influence upon its kindred branch of medicine, obstetrics, is at once seen. Barnes says that the first indication is to "empty the uterus." Playfair tampons the vagina and gives ergot in cases of alarming hæmorrhage or of undilated os uteri. If the os still remains closed, he employs sponge tents for its dilatation, even though there be no urgent symptoms.

Prof. A. R. Simpson advocates the use of a sponge tent, previously disinfected, as soon as the abortion appears unavoidable. He also gives ergotine hypodermically.

Schroeder employs the tampon if the hæmorrhage is alarming or the ovum is retained.

Angus Macdonald says that in the ordinary run of cases, in which the hæmorrhage is not specially profuse, we ought to trust to ergot by the mouth, or ergotine subcutaneously, and that we shall most probably find that all will go on all right, except that we shall have to hurry the conclusion of the case with slight manipulation, and that wholesale imperfect plugging of the vagina is to be strongly deprecated.

Lusk endeavors to empty the uterus as soon as possible. If the cervix is open he uses the finger; if it is closed he employs the tampon, giving it three trials, each tampon being left in the vagina for twelve hours. If, after the removal of the third tampon, the cervix is still undilated, he resorts to sponge tents.

T. Johnson Alloway, of Montreal, advocates the immediate removal of the secundines with the curette, not the finger, either with or without previous dilatation of the cervix.

Dr. Mundé gives it as his opinion that "the future safety of the patient demands that the secundines should be at once removed after expulsion of the foetus in every case of abortion in which such removal can be accomplished without force sufficient to injure the woman."

Dr. W. H. Farr is in favor of the immediate removal of the membranes after abortion. He employs the curette forceps, and opposes the use of the finger as being dangerous.

Dr. Walter Coles, of St. Louis, opposes the immediate removal of the membranes as a matter of routine in every case of abortion. If the immediate symptoms are urgent, the placenta should be at once removed by the finger, forceps, or curette, the cervix having been previously dilated if necessary. If there are no urgent symptoms the expectant plan should be pursued. Dr. Coles's paper was read before the St. Louis Obstetrical and Gynæcological Society. A general discussion followed, and it was evidently the sense of the Society that the expectant plan is safer than the immediate removal of the secundines by manual or instrumental means.

From the foregoing extracts it is seen that dilatation of the closed cervix with tents and extraction of the secundines with the finger or forceps is the usual method of procedure of those who advocate the immediate removal of retained portions of the ovum. Mundé claims that this manipulation is so free from danger that every physician can employ it. Thomas writes: "There is always danger in dilating the cervix by tents, though it is by no means so great as to make one hesitate in employing them."

It appears, then, that the first part of Mundé's manipulation is attended with danger. Let us now consider the extraction of the membranes by the finger, curette, or forceps. Barnes, Playfair, Simpson, and Lusk deprecate the use of the curette or forceps as being hazardous. They employ the finger, and consider it safe and satisfactory. Alloway and Farr, on the other hand, regard the use of the finger as highly dangerous, and claim that the curette gives better results. We thus have testimony from the gynæcologists them-

selves that the forcible extraction of the secundines, whether manual or instrumental, is not free from danger.

Having shown that active interference in imperfect abortion is a dangerous procedure, we have now to inquire into the necessity of the operation. If the placenta does not soon follow the fœtus or is not forcibly removed, what happens in the majority of cases? Published statistics on this point would be valuable and interesting, but, unfortunately, there are none. We must rely upon our individual experiences for an answer to this question. I think that practicing physicians will bear me out in the assertion that the great majority of these cases take care of themselves, or at least require but little assistance from us. The placenta comes away in the next twenty-four hours, or within a few days, or at the next menstrual period. By far the larger proportion of abortions, as of deliveries at term, fall to the care of the general practitioner, the family physician; only a very small percentage reach the gynecologist in the first instance. The latter sees the exceptional cases, the cases which have resulted badly, and therefore seek his special skill.

Having argued to prove that active interference in abortion is as a rule unnecessary and dangerous, it follows that I agree with those who follow the expectant plan of treatment. This does not mean, however, that abortions should be "neglected," as the gynecologists express it.

LIGATION OF THE FALLOPIAN TUBE FOR INTERNAL HEMORRHAGE.

By CHARLES E. BRIDDON, M.D., Surgeon to the Presbyterian Hospital, etc.

In a paper read before the *N. Y. Surgical Society*, Nov. 13, 1883, Dr. Briddon reported a case of tubal gestation, in which rupture occurred at the end of the second month, and in which he performed abdominal section and ligated the tube for the internal hemorrhage. The patient was twenty-eight years of age, a short, stout brunette, the mother of two children, and had always enjoyed good health. Death occurred from shock, forty-seven hours after the operation.

Sectio Cadaveris.—October 31st, 11 P. M. Abdomen only moderately distended. Abdominal wound agglutinated, but easily separated. Omentum adherent to peritoneal surface in the neighborhood of the line of incision; no general diffuse peritonitis. About two ounces of odorless bloody fluid in the cavity of the pelvis; the left broad ligament adherent to anterior wall of rectum; uterus enlarged to nearly twice its normal dimensions. At the junction of the left oviduct with, and encroaching upon the cornua itself, was an ovoid swelling about one inch in diameter, darker than the surrounding structures, of a mottled violaceous maroon color. Near the junction of the posterior wall of the duct with this swelling was a ragged opening, half an inch in length, and leading into a cavity formed mainly out of that portion of the duct which traverses the uterine wall, so that the specimen might be said to represent the variety known as interstitial, or, more correctly, sub-interstitial. On incising that portion of the cavity which was developed at the expense of uterine textures, it was found filled with adherent coagulum. The cavity of the uterus was not lined with decidua, and the uterine opening of the oviduct was impervious. Outside the rent were found the ligatures applied during life, and which had effectually controlled the hemorrhage.

Remarks.—About twenty years ago, a surgeon of this city, the late Dr. Stephen Rogers, was a vigorous advocate for the performance of laparotomy in cases of internal hemorrhage due to rupture of the oviduct, but the profession at that time was not prepared to accept the proposition. The great advances that have been made in abdominal surgery since then have paved the way, and although I am not aware that the operation has been performed, I can state advisedly that the matter has been much debated, and that the views of Dr. Rogers are now generally approved. Grailey Hewitt says, in the last edition of his work on the pathology, diagnosis, and treatment of the diseases of women:—

"In cases of Fallopian pregnancy, if it were possible to make an exact diagnosis of these cases of rupture and hemorrhage during life, it would undoubtedly be better to open the abdomen, and endeavor to secure the bleeding vessels than to allow the patient to die of hemorrhage. No operation of the kind has ever been attempted, but the subject has formed the matter of discussion on more than one occasion at the meetings of the Obstetrical Society of London."

Lawson Tait, in his recent book *On the Diseases of the Ovaries*, says: "I have very little doubt, however, that many of these cases would be saved by prompt action. The difficulty is, of course, in the diagnosis, some certainty of which is requisite before an abdominal section can be performed. I have twice been on the point of performing abdominal section on account of suspected rupture of a Fallopian tube, and have been prevented by scruples as to the correctness of the diagnosis. In both cases, post-mortem abdominal section showed that the suspicion was correct, and I believe both of these patients might have been saved."

Other authorities might be quoted, endorsing the opinions thus expressed, but I think these will suffice to show the general conclusions of those most familiar with the subject. In the case which forms the basis of this communication, the subject of transfusion was entertained, and rejected. Previous to the operation, I could only conceive that it would have been harmful where we have to deal with concealed hemorrhage, and there are such doubts as to its precise location and character as may render it questionable whether we are warranted in adding the shock of an operation to that already existing. The issue of the case will depend upon the success with which we can keep the circulation at a minimum consistent with life. If we resort to means which raise arterial tension, we shall interfere with the conservative progress which we initiate with more or less success in the application of hemostatics, and certainly cause further leakage from partially occluded vessels. In this case, after the blood-supply was cut off by the application of ligatures, I had faith in the natural robustness of the patient, and though she hovered between life and death for twenty-four hours, the condition of the pulse after that time and up to within a few hours of death justified the confidence I had placed in those resources. The heart failure, which occurred more than forty hours after the bleeding was arrested, I attributed to shock, which I did not think could be beneficially influenced by transfusion, and, consequently, did not feel warranted in resorting to a means that I certainly do not regard as free from danger.

TREATMENT OF LACERATED PERINEUM.

By T. JOHNSON ALLOWAY, M.D., L.R.C.S. and P. Edinbrough, Consulting Physician Montreal Dispensary.

The *Amer. Jour. Obs.*, January, 1884, contains a long paper on immediate section of a lacerated perineum, with the following conclusions:—

1. Examine carefully, *with your eyes*, every perineum after removal of placenta. If lacerated to more than a quarter of an inch, apply the suture.
2. Use one of Emmet's long, straight perineum needles, with a silk suture. By the aid of a holder, force the needle through the skin on the left side of the tear, half an inch from its edge, at any point between the beginning and end of tear, but the nearer to the beginning, that is, the higher up, the better will be the result. Now, with the two fingers of left hand in the rectum, press up the rectal wall and recto-vaginal cellular tissue, so that the needle can be rapidly, though steadily, made to glide beneath this tissue and over the rectum, hugging the latter as closely as possible, to make its exit at a corresponding point on the opposite, or right side. In tying the suture, avoid doing so too tight, as it is a good plan to allow for swelling, which generally lasts for some days.
3. Be sure that the needle in no part of its course makes an exit in the vaginal surface; if so, you will probably have a pus pocket.
4. The operation is very simple, and can be performed by any physician of ordinary experience.

5. The after-treatment consists in washing out the vaginal passage night and morning with any antiseptic solution the physician is accustomed to use. *But he must do it himself*; the nurse would be as likely to pass the tube below as above the suture, and *kill all your joy*. As regards antiseptics, I use in such cases a solution of corrosive sublimate $\frac{1}{1000}$ ounce in twenty-four hours, administered at night. I find this solution as handy and harmless as carbolic acid. Tell your chemist to make a 3ij. alcoholic solution of hyd. bichl.; each drachm of the solution to contain seven and one-half grains of the salt. One teaspoonful of this mixture added to a pint of water will give, almost to a fraction, one part in one thousand. I have used this solution in cases of metritis three times in the twelve hours for two consecutive days without any evidence of toxic effects from absorption. It is probably due to the formation of an insoluble albuminate of mercury, which seals up all breaks in the surface for a time.

6. The suture had better be allowed to remain in situ for nine or ten days. I am strongly in favor of the silk; the wire suture is liable to produce a bleeding point or two on removing it. This accident might prove troublesome from absorption, which is so active at this period of convalescence.

7. The nurse is the only assistant you will require, and is, of course, in your confidence.

THE ELASTIC LIGATURE FOR THE UMBILICAL CORD.

Dr. JOHN J. REID, of New York city, in a paper published in the *Med. and Surg. Reporter*, Dec. 1, 1883, says:—

In the majority of cases the ordinary ligature is sufficient to tie the umbilical cord, but in certain cases fatal hemorrhage follows its use, and presumably in the hands of competent practitioners. Hemorrhage is most likely to occur in cases in which the cord is large, and where there is an abundance of gelatinous matter. In such cases where desiccation and consequent contraction takes place, sufficient pressure is removed from the vessels to permit bleeding.

I have proved satisfactorily to myself that a fine strong ligature tied as tight as possible with a surgeon's knot, and tied again and again in the same channel with the intention of causing as much pressure as possible, failed to prevent hemorrhage. I thus became convinced that to prove serviceable the ligature must be elastic to compensate for the shrinkage.

The method I adopted was to carry in my pocket a piece of black rubber tubing of the kind and calibre ordinarily used for drainage purposes. From the piece of tubing I cut off a ring about an eighth of an inch in length, and slip it on the prongs of a dressing forceps. The forceps is then opened and the umbilical cord grasped about two inches from its extremity. The rubber ring is then slipped down and over the fold of cord embraced by the forceps.

HEMATOMA VULVÆ.

In the *Trans. of the Obs. Soc. of Cincinnati*, as published in the *Obs. Gazette*, Dec. 1883, we find the report of a case by Dr. W. H. Wenning. It had been his good fortune to meet with three cases of affections of the external female genitals within a comparatively short time.

The first was one of hypertrophy of the labia minora, reported before the *Cincinnati Obstetrical Society* at the meeting of April 12th, 1883, the second was one of enormous fungoid vegetations on the labia and anus, which growths were successfully removed by Paquelin's thermo-cautery, and the third was a hematoma or thrombus vulvæ.

The most interesting feature in this affection is the cause. Aside of traumatism which may take place during pregnancy—and is then more apt to be followed by an effusion of blood into the cellular tissue on account of the greater vascularity of the parts—as well as in the non-pregnant state, there

must be some predisposing cause by which the vessels are more easily ruptured. Most authors mention varicose veins as one the causes, although the majority of them agree that these enlarged vessels are only a secondary and not a primary factor in the production of this accident, while some, as Spiegelberg, regard their presence as only accidental. Barker even goes so far as to say that varicose veins predispose against hematoma, although he does not consider it worth while to give the reason. Of the 48 cases collected by Perret only two resulted from varicose veins. Winckel found varicose veins only six times in fifty cases, Scanzoni but once in fifteen, Outreput none in four, Braun none in eleven and McClintock and Barker never saw an instance in their large number of cases of hematoma vulvæ. Wernich, who reported a very remarkable case before the *Berlin Obstetrical Society* a few years ago, considers the vascularity of the corpus cavernosum of the clitoris especially the predisposing cause of hemorrhage, and in proof of this mentions a case of accidental rupture of the parts from a fall which he saw in consultation with another physician, where the profuse hemorrhage that followed was shown to proceed from an injury to the corpus cavernosum. Even the unskilful use of the forceps, unfortunately so common a cause of injury to the soft parts, can in this instance be but rarely accused of having produced a hematoma.

Although hematoma vulva is still a dangerous complication, especially if the effusion be very large, the mortality is not now near so large as formerly. The earlier statistics date from the years 1830 to 1840 when it was common to incise these tumors at once to let out the effused blood, in consequence of which, no doubt, fatal hemorrhage must have often resulted. Almost all authorities of the present time recommend the opposite course, namely, to apply cold compresses and to wait for the absorption of the clot, interfering only when the size of the swelling should obstruct the passage of the head during labor. Scanzoni and Barker, however, urge opening and turning out the clot. Their reason for so doing is to prevent the formation of an abscess and possibly subsequent septicemia; but even they recommend this procedure only when the first inflammatory symptoms have passed off and the swelling has ceased to fill with blood.

Dr. REAMY had seen four cases, and said: Where a tumor of this kind is opened at all by incision, it should be free, and bold, thorough; and compression with antiseptic dressings secured.

THREATENED MAMMARY ABSCESSSES.

The *Med. and Surg. Reporter*, Jan. 26, 1884, refers to the treatment adopted by Dr. James Braithwaite for aborting mammary abscesses, and published in the *Lancet*: "In cases of threatened mammary abscess, I have for many years, with very successful results, given three consecutive doses of ten grains of quinine at intervals of twelve hours, at the same time using the usual local application of belladonna. The best cases for the treatment are those occurring during lactation, and it is less suitable immediately after labor. It is unsuitable if the bowels are confined and the tongue furred. There are some patients who do not bear such large doses of quinine, in which case a first dose of ten grains may be followed by two or five grains each. I originally saw this treatment recommended in a French medical journal, and claim, therefore, no originality. I have frequently seen the pain and tenderness disappear within forty-eight hours, although a little hardness will remain for some days or longer, and the inflammatory symptoms may recur, and may be again at once checked by the same treatment. A recurrence, however, is rendered less likely if the belladonna is continued for a time, although pain has ceased. No doubt some will say that the success of the treatment is owing to the belladonna, and not to the quinine. I used the belladonna for years before I used the quinine in addition, and was struck with the greater rapidity and certainty of the result when the quinine also was used. At the same time I admit the difficulty, when two drugs are employed, of apportioning to each its real value."

A CASE OF TEMPORARY BLINDNESS FOLLOWING CHILD-BIRTH.

By E. C. BATES, M. D., Corning, O.

The following case was published in the *Obs. Gazette*, Jan. 1884: On December 17th, 1883, at six o'clock A. M., Mrs. W., of this place, gave birth to a large female child, it being her fifth confinement. The labor was short and very easy, a few pains expelling the child and the placenta. There was no unusual hemorrhage and the patient congratulated herself on feeling so well and upon having so trifling a labor.

At 4 P. M., same day, I visited her and found her feeling well, all doing nicely, but that night, at one o'clock, I was sent for and found her suffering with intense frontal headache and also complete loss of sight. The latter she had discovered about an hour before my arrival. The room, to her, was dark and she asked her husband "why he had taken the lamp away?" He replied that the lamp was on the mantel as usual and she realized that she was blind.

I gave opiates to relieve the pain and on inquiry and examination found everything as it should be, except the headache and blindness. Pulse 76 beats per minute; no fever.

Dec. 18th, 9 A. M. Headache entirely gone, patient feeling well in every way but still blind. At 7 P. M., same day, the patient says she "thinks she can tell whether the lamp is in the room or not." No fever; pulse 100.

Dec. 19th, 9 A. M. Mrs. W., thinks she can distinguish the windows and "see shadows when anyone passes between her and the light." Pulse 99, no fever. At 6 P. M., same day. Sight slightly improved during the day. Pulse 96.

Dec. 20th, 9 A. M. Patient slept well all night. Had an evacuation of the bowels without aid. Says she can "make out her friends but their faces look like wax-work and their eyes like bright dark beads." Pulse 100.

Christmas she could see as well as ever and in every respect was improving.

The confinement and subsequent recovery was all any woman or physician could wish. There was really nothing out of the usual order of things, except a few hours headache easily relieved, and the fact that she was entirely blind for about thirty-six hours and for a few days partially so. The recovery of sight was very gradual as can be seen from this report. Had an ophthalmoscopic examination been made it might have revealed some cause and it *might* not. This would have been done had it been practicable. The appearance of the eyes was as usual and the pupils acted properly.

Some works on obstetrics mention cases of this kind following complications, such as flooding, severe labor, etc. Cazeaux knew of or mentions one case and that followed flooding.

WHEN NOT TO GIVE CHLOROFORM IN PARTURITION.

In a paper read by Dr. SAVILL before the East Surrey District of the South-eastern branch of the Medical Association, he lays down the following rules to be observed in not giving chloroform during labor:

1st. Never give it to a woman who has a tendency to flood during every confinement, or to those who have great relaxation of fibre, or weak, anæmic women in their eighth or tenth confinement, except for necessity.

2d. Do not give it where labor is complicated with severe vomiting, or with acute heart or lung trouble unless there be an imperative demand for it.

3d. It should not be given to complete anæsthesia except for operations, convulsions or spasms of the cervix, and then one person should devote his entire attention to it.

4th. The inhalation should be stopped directly the pulse becomes weak or the respiration irregular.

5th. Do not give it if there be grounds to fear a fatty or enfeebled cardiac wall.

6th. In all cases where it has been given, there should be extra care to prevent post-partum hemorrhage.—*The Obstetric Gazette*.—*Maryland Med. Jour.*, Jan. 12, 1884.

DISEASES OF WOMEN.

ELECTRICITY IN SUPERINVOLUTION AND SUBINVOLUTION OF THE UTERUS.

By A. D. ROCKWELL, M. D., of New York.

In a paper published in the *Medical Record*, Jan. 19, 1884, comments on Dr. Fordyce Barker's remarks made at the last meeting of the Amer. Gyn. Soc., and says:—In the following case, lately seen and treated, some of these symptoms were distinctly marked, and so far forth, are confirmatory of Dr. Barker's experience.

At stated periods there was severe headache, pelvic pains and nausea. Associated with these symptoms, and far more persistent than any of them, was a condition of melancholia that became intensely aggravated immediately preceding the effort at menstruation, and manifesting itself by an insuperable aversion for persons and things that ordinarily excited in her no such feeling. Two years previously she had suffered from a difficult and dangerous labor, and since that time the menses had not appeared, excepting on two or three occasions, when it was exceedingly scanty, and in other ways unnatural. Upon measurement, the uterus was found to be but about one and three-fourths of an inch in length. The patient was treated almost daily, for about three months, by internal applications of both faradism and galvanism, when a slight show appeared for the first time in eighteen months. At the next menstruation, a few weeks subsequently, the flow was much more abundant.

In subinvolution of the uterus, my experience, though limited, has been somewhat greater than in superinvolution. The apparently paradoxical action of electricity, as illustrated in the treatment of superinvolution and subinvolution of the uterus is not a new thing. We constantly find that it relieves both hyperæsthesia and anæsthesia. It is used successfully to excite torpid excretory processes, and also to restrain this function when too active. In the same way it may cause increase or it may cause diminution in the size of a part or organ.

Goitres, for example, are readily reduced in size, and sometimes entirely disappear under simple external galvanization, and so with other forms of morbid growths. On the other hand, it is well known to all whose experience has been at all extended, that normal tissue may be surprisingly developed by persistent local applications.

FISTULA IN ANO.

By EDWARD W. JENKS, M. D., LL.D., Prof. Diseases of Women and of Clin. Gyn. Coll., Phys. and Surge., Chicago, Ill.

In a paper published in Vol. VIII, *Trans. Amer. Gyn. Soc.*, 1883, Dr. Jenks, says: The mode of operating as I have performed it may be briefly described as follows: 1. After determining the routes of the fistulous tract, they are incised after the usual method, aiming in every instance where the incision involves either sphincter muscle to have the incision at right angles to the muscular fibres. The next step is to carefully dissect out the so-called pyrogenic membrane or all of the lardaceous tissue and the cartilaginous substance along the route of the fistula. This can be done with the curved scissors or a cutting curette. It is not unusual to find several bleeding vessels in the fistulous tract; these should be secured by torsion in preference to ligatures, but if ligatures become a necessity, then Chinese silk is to be preferred. The portions of thin livid skin of low vitality, frequently found overlapping the incision after cutting the fistula, should be entirely cut away in all instances. But in the operation under consideration, the edges of the incised skin should be pared until they can be brought together perfectly, and then by deep sutures the incised parts maintained in perfect apposition until adhesion is

effected. The deep sutures can be adjusted in an easy manner by a Peaslee needle or the common perineal needle, and should be buried beneath the bottom of the incised fistulous tract so that no portion is visible except the two ends protruding from the integument. In addition to deep sutures it is in most instances necessary to insert superficial sutures alternately with the deep ones that the strain upon the latter may be lessened and the edges kept in apposition. The severed portions of the sphincter are united by suture in the same manner as is done in complete laceration of the perinæum according to Dr. Emmet's method.

Dr. Jenks directs attention to the following points: 1. In my own opinion while this mode of operating is not adapted to every form and variety of anal fistula, I believe it is by far the best method in the majority of cases.

2. The long and tedious convalescence connected with the ordinary mode of operating is by this mode avoided.

3. Other advantages of this mode of operating are, (a) secure union by first intention, (b) the prevention of incontinence.

4. In cases where the external sphincter has become rigid, it is not easy to hold its incised ends in close apposition without forcibly dilating it with the thumbs prior to operating or else by an incision opposite the tract of the fistula of sufficient depth to partly paralyze the muscle. In this manner the sutures in the sphincter will render better service.

5. For the purpose of facilitating the introduction of sutures in the rectum there are two means, as follows: (a). The introduction into the rectum of the Sims speculum; (b). The eversion of the lower part of the rectum by means of one or more of the fingers being introduced into the vagina and then turning out a portion of the rectum through the external sphincter.

VAGINAL INJECTIONS.

By WILLIAM GOODELL, M. D., Prof. of Gynecology in the Univ. of Penn., Philadelphia.

In the course of a clinical lecture published in the *N. Y. Med. Journal* Dr. Goodell, speaking of the vaginal injections of hot water to obtund the sensitiveness of the womb and vagina in a case of cellulitis following an operation for laceration of the cervix, says:

The mistake that is usually made in the use of hot-water injections is that too small a quantity is employed. A quart of water will do more harm than good. If you inject a small quantity of water into the vagina, blood is invited to the part and there is an increased congestion. If, however, a large amount be injected, the secondary effect of the hot water is obtained. It then causes contraction of all the tissues and the capillaries, thus lessening the amount of blood in the womb. The quantity used each time should not be less than one or two gallons. It is far better to inject the water from a syringe than to use the douche, for when it is projected forcibly it makes a more marked impression. No woman can herself use a syringe for fifteen or twenty minutes in the position which it is necessary that she should maintain. It must be done by an assistant; but, if she cannot afford a nurse, she will have to use the douche. This is called a fountain reservoir. This nozzle should not be made of metal, for the water has to be at a temperature of from 110° to 120° F., the heat is conducted by the metal to the sensitive vulva, giving rise to the sensation of being scorched. The nozzle should, therefore, be of rubber. It should have no terminal opening, but its sides should be perforated by a number of holes which will direct the water forward.

Sometimes, as a result of laceration of the cervix or on account of other causes, the os may be so patulous as to admit the nozzle of the syringe, and, if like the old-fashioned nozzles, it has a terminal orifice, the water will be projected directly into the cavity of the womb. The womb immediately resents the presence of the water and forcibly contracts; but, as the nozzle completely occludes the os, the water is forced through the Fallopian tubes into the peritoneal cavity, causing inflammation. I have seen a number of instances of uterine colic from this cause, and every year there are reported cases in which death has followed the injection of simple water into the womb. I must acknowledge that I do not clearly see why this accident

should be followed by such serious results. You should always examine the syringe before it is used, and, if there is a terminal opening, close it either by a little plug of wood, or by tapping around the hole with a small hammer.

RECTAL DISEASE CONSIDERED IN ITS RELATION TO DISORDERS OF THE UTERUS.

By R. B. MAURY, M. D., of Memphis, Tenn.

The object of this paper which appears in the *Trans. of Amer. Gyn. Soc.*, Vol. VIII, 1888, is to inquire to what extent certain morbid affections of the rectum are due to disease in the womb and to consider the mechanism by which they are induced.

Theorizing upon this subject, we would conclude that while a large proportion of the diseases of the female bladder are due to injuries sustained during parturition, the rectum would be more likely to suffer from those obstructions which are produced in the pelvic circulation by uterine displacements and by disease of the pelvic cellular tissue. These conclusions I believe, will be sustained by clinical observations. After giving the peculiarities of the pelvic circulation, the author says: Dr. Emmet in an analysis of 288 cases shows that after cellulitis menstruation remained normal in 18.75 per cent. only. If, then, the circulation in the mucous membrane of the uterus is thus disturbed by influences which operate upon the blood-vessels of the pelvic cellular tissue, it seems certain that the mucous membrane of the rectum will suffer in a similar manner, if not to the same extent, from these influences.

There are three morbid conditions of the rectum which I have observed, and which depend largely, if not entirely, upon uterine disease for their ætiology. These are, hyperæmia, chronic inflammation and chronic ulcer.

Hyperæmia.—In many women suffering from uterine disease a great deal of distress is occasioned by the spasmodic contraction of the vaginal, vesical, and rectal sphincters, especially the last. In these cases constipation is a prominent feature. There is uneasiness or pain in defecation, with slight blood and mucous discharges, and the introduction of the finger is difficult on account of the pain and nervous distress accompanying it. These symptoms lead to the suspicion of fissure. An examination of the rectum under ether reveals a state of things not amounting to inflammation, but bordering very closely upon it; a condition of intense hyperæmia, extending about two inches above the sphincter, with a swollen appearance of the membrane and excessive secretion of mucus. There is found no fissure, no ulcer, no hæmorrhoidal swelling, but simple hyperæmia, and all the rectal symptoms rapidly disappear after stretching of the sphincter and giving attention to the uterine disorder present.

Chronic Inflammation.—This condition of the rectum does not appear to be connected with any one particular form of disease of the womb, and it is found alike in the nullipara and in the woman who has borne children. These patients all complain of an ill-defined uneasiness in the rectum and of uncomfortable sensations attending defecation. In one, constipation exists; in another, constipation alternates with looseness; in all, there is more or less mucus in the stools, and this appears in different forms. In some the mucus is in ribbon-shaped bands; in others it resembles a membrane, or is in casts; in others it is in a jelly-like mass by itself, or it is intermixed with fæces. The mucous membrane of the rectum is unnaturally red, swollen, and thickened; at other times thinned, relaxed, of a purple color, and with dilated veins ramifying under it. These cases of chronic inflammation of the rectum are very rebellious to treatment, and though in my experience capable of being greatly benefitted, they have not often been entirely cured. My idea of their ætiology is that they depend upon the same causes which produce the accompanying uterine disease; that is, upon causes operating in the pelvic cellular tissue to obstruct the flow of blood in the venous plexus especially. Catarrhal inflammation ensues, and causes the morbid secretions discharged from both cavities. I have seen very little of it in man, and can only recall two instances.

Chronic Ulcer of the Rectum.—The extraordinary frequency with which rectal ulcer occurs in women, as compared with men, is so great as to make it a disease almost peculiar to women. This peculiarity has attracted general attention, and various solutions have been offered to explain its occurrence. From my own observation, from what has been written on the subject by others, and from physiological considerations, I conclude that while traumatism, such as arises from bruising of the walls of the rectum in parturition, may sometimes be responsible for the production of ulceration, it is a real cause in so small a number of cases that we may practically disregard it in trying to explain the extreme frequency of the disease in females. Neither is the view that it is syphilitic or chancroidal in origin satisfactory. Mr. Allingham says, "I do not know the cause, nor have I been able to trace out any definite common state preceding the malady." In trying still further to elucidate this subject I observed a fact of interest in connection with the location of the ulcer or its resulting stricture. It may be safely declared that the ulcer in by far the largest number of cases originates within the last two inches of the rectum.

Now, in the very lowest portions of the rectum there are anatomical peculiarities which exercise an influence upon this question of etiology. 1. There are two of Mr. Houston's crescentic folds, the largest offering itself as an obstruction to the passage of rough or angular foreign bodies. 2. In the same locality are the columns of Morgagni, in the concavities of which foreign bodies are easily entangled. This, says Poulet, forms a sort of place of election for very small irregular bodies, whether stercoraceous or otherwise.

I may sum up my conclusions in this matter in the following words: 1. The situation of the ulcer, with so few exceptions, in the very lowest part of the rectum, where the anatomical features are such as to facilitate the entanglement or oppose the passage of foreign bodies, affords a very strong inferential proof that traumatism is the cause of the ulcer in by far the largest number of cases; and, I may add, in very many which have heretofore been ascribed to other causes. 2. The extraordinary frequency with which chronic ulcer occurs in females is due in part to their disposition to eat indigestible articles of food; in part also to their habit of neglecting the regular evacuation of the bowel, and the consequent prolonged accumulation of stercoraceous matter in the rectal pouch; but especially and chiefly to the frequent occurrence in connection with the uterine disease of hyperæmia and chronic inflammation of the rectal mucous membrane, conditions which in conjunction with traumatism are the most favorable for the production of ulceration everywhere.

OVARIOTOMY IN OLD AGE.

Dr. J. E. JANVRIN presented to the *New York Obstetrical Society* (*N. Y. Med. Journal*, Dec. 1st), a monocyst removed in June last from a woman seventy-seven years of age. Except for the influence of the rapid growth of the tumor, the patient was in good health. The operation was very simple, there being no adhesions and the tumor being removed through an incision only two inches long. She made an excellent recovery. Dr. Janvrin believed this to be the oldest patient upon whom successful ovariectomy had been performed in this country, and perhaps in the world.—*Maryland Med. Jour.*, Dec. 15, 1883.

TREATMENT OF ECZEMA OF THE GENITALIA; PRURITUS AND LEUCORRHEA.

In cases of eczema, in which glyceroles and unguents have failed, the following formula has been successful:—

Chlorate of potassium.....	80 grains;
Wine of opium.....	50 grains;
Pure water.....	1 quart.

Applied to the parts by linen compresses covered with oiled silk. If there is much inflammation, precede this with warm hip-baths and cataplasms

sprinkled with powdered carbonate of lime. In obstinate pruritus, associated with leucorrhea, a tablespoonful of a mixture of equal parts of tincture of iodine and iodide of potassium, in a quart of warm tar-water (tar-water holding the iodine in solution), used daily, night and morning, removes the pruritus and ameliorates the leucorrhea. In fetid leucorrhea, two or three tablespoonfuls (in a quart of warm water, morning and evening, as an injection) of the following formula will be found useful:—

Chlorate of potassium.....	18 parts;
Wine of opium.....	10 parts;
Tar-water.....	300 parts.

Or,

White vinegar (or wine)	300 parts;
Tinct. eucalyptus.....	45 parts;
Acid, salicylic.....	1 part;
Salacyleate of sodium.....	20 parts.

One to five teaspoonfuls in a quart of warm water, as an injection, two or three times a day.—*Obstetric Gazette*.

DISEASES OF CHILDREN.

THE RECENT EPIDEMIC OF DIPHTHERIA IN MANSFIELD IN ITS RELATIONS TO SANITARY CONDITIONS AND WATER SUPPLY.

By MARY J. FINLEY, M.D., Mansfield, Ohio.

The following appeared in the *Cincinnati Lancet and Clinic*, January 26, 1884:—The unusual prevalence of diphtheria in this city during the present year, has brought the subject of its relation to sanitary conditions and water supply prominently before the profession.

Under these circumstances, I have ventured to offer the following report of a house to house inquiry into the source of water supply and the sanitary surroundings of households in which fatal cases of diphtheria have occurred from January 1st to December 1st, 1883:—

The inquiry has been directed to ascertaining such unsanitary local conditions in and about houses where fatal cases occurred as might tend to the contamination of air, soil, or water. Where well water was used, it has been tested for the presence of organic matter, animal or vegetable, and for those substances which are generally recognized as evidences of contamination by animal waste, either near or remote.

With a few exceptions the tests have been qualitative only. The test for chlorides, was made quantitative when the qualitative analysis showed more than a trace of chlorine.

From Jan. 1st to Dec. 1st, three hundred and twenty-nine cases of diphtheria are reported to me by physicians as occurring in the city. During the same time there were twenty-seven deaths from this disease. A fatality of about 8½ per cent.

Besides the cases reported as well marked diphtheria, every physician reported that he had attended an unusually large number of cases of catarrhal sore throat and tonsillitis; many remarking that these were somewhat diphtheritic in character, or showed the "diphtheritic influence."

Here follows a concise history of each fatal case, together with the result of chemical analysis of the water supply of the house in which the death occurred, and its hygienic surroundings.

It is a fact worthy of note that but three of these families belong to the very poor; while the large number of them are people in very comfortable circumstances, who are surrounded, not only by the necessities of life, but

by its comforts and luxuries. All of the houses except three are on the hillsides.

Six of these places may be pronounced in fairly good sanitary condition. Five of them are undoubtedly bad, and the remaining eight are suspicious.

Eleven families use well water only. Two use both well and hydrant water. Five use hydrant water only, and one uses cistern water only. The proportion using well water is about the same as that in the city at large.

According to the sanitary tests used, and to a microscopic examination not herein reported, the water of three wells is good, of six bad, and of the remaining two suspicious. In every case except, perhaps, one, the conditions favoring contamination were present.

Of the six families with good sanitary surroundings, all used well water; one from a well classed good, three from wells classed bad, and two from a well classed suspicious. From nine of these wells other families than those having deaths from diphtheria obtained water; in every instance there were children among them; in six instances no cases occurred in these families; in three instances diphtheria occurred in all families using the well. Of these three wells, two are bad and one suspicious.

The city is abundantly supplied with fine pure water drawn from two springs, one a mile, the other half a mile from the city. The works are capable of supplying daily 190 gallons per capita. In spite of this copious supply of water above suspicion, two-thirds of the people still cling to the use of well water. Less than 700 families are supplied with hydrants. There is no system of sewerage, a defect which is likely soon to be remedied.

After a full consideration of all the facts which I have been able to gather, I can only arrive at the conclusion that neither sanitary conditions nor water supply, either originated the present outbreak of diphtheria in this city, contributed to its spread, or increased its virulence. Except in so far as the cold, moist atmosphere from damp cellars conduces to catarrhal affections of the respiratory mucous membrane, rendering it weaker to resist the special contagion of diphtheria, and in so far as the general deterioration of vital processes induced by any impurity of air or water, renders the system less able to throw off the poison of disease, and less able to maintain its integrity • until the disease shall have spent its force.

While the present report shows that there may be some connection between the malignancy of diphtheria and bad sanitation and impure water, yet the very multiplicity of the presumed unsanitary conditions precludes the possibility of ascribing a specific influence to any one of them. Well water, sewer gas, damp cellars, foul soil, rotting garbage, and filled lots appear to have exerted an equal influence.

A careful study of a number of reports on diphtheria in different parts of the United States and in other countries, has convinced me that epidemic diphtheria occurs with almost equal malignancy under the best and the worst sanitary conditions. The most desirable hygienic surroundings, and the most irreproachable water supply afford no security against its attack.

THE MEDICAL TREATMENT OF MEMBRANOUS CROUP.

By C. J. JENNINGS, M.D., Lect. on Chem. and Dis. of Children, Detroit Med. Coll.

The following appeared in the *Medical Age*, November 26, 1883:—Statistics show that the prevalence of membranous croup may be represented as a wave beginning with the autumn months, rising with more or less regularity, reaching its acme during December or January, and declining with the appearance of the warmer months of spring.

As prefatory to the consideration of treatment I will state that I consider that mild, sporadic inflammation of the larynx bears the same relation to diphtheria that the similar pathological condition of the pharynx does. There is no anatomical or clinical dividing line between what is termed membranous sore throat and diphtheria, and the same, I think, may be said of membranous croup and diphtheria.

Whatever type the disease may assume, or however opposite may be our conception of its pathological relations, the object of treatment will be the

same. Suffocation threatens from narrowing of the calibre of the larynx by the formation of a membrane within it, and bearing this in mind medical treatment will be indicated—1st, to endeavor to limit the exudative process; 2d, to dissolve and loosen the exudate; 3d, to assist the expulsion of the loosened membrane; 4th, to relieve laryngeal spasm; and 5th, to support the strength. Many cases of laryngeal diphtheria are attended by more or less pharyngeal exudate. The treatment of that feature of the disease is not within the province of this paper. When it occurs it is understood that appropriate treatment must be instituted.

To fill the first indication we have no specific. In times past calomel was used for its supposed antiplastic action. I have treated one case with the large doses now recommended, but with very evident harmful results. Chlorate of potassium and chloride of ammonium have the confidence of some members of the profession. I have had but little experience with them.

Tracheotomy was performed on 9 with 6 recoveries. These are excellent results, but it must be added in explanation that other elements assisted to produce them. A majority of the cases were under treatment from the inception of the disease, and other remedies, such as steam and emetics, were energetically used.

The second indication must be met by topical measures. The only practical method of introducing a medicament into the larynx in this disease is either by vapor or spray. The latter method is preferred; the spray being produced by a steam atomizer. Many remedies have been suggested for use in this way on account of their solvent action upon false membranes. My experience is confined to four: Solutions in water of bicarbonate of sodium 1:100; lactic acid 1:50; hydrate of potassium 1:1000; and officinal lime water. I have been unable to detect any difference in their action and have used them indiscriminately, giving the preference, perhaps, to bicarbonate of sodium, because it was the handiest. I have but little faith in the solvent power of medicated steam spray. The amount of the medicament that reaches the larynx must be very small; not enough, I think, to have much effect. Although possessing but little solvent power, steam spray is of considerable value in the treatment of this disease. In many cases, however, it is impossible to use an atomizer, and we may substitute for it warm vapor of water, medicated or not. Vapor generated by slaking lime is a favorite remedy with some: ordinary steam is about as useful.

In children with croup, the cough is often too feeble to expel the mucous and shreds of membrane from the larynx, and we may have recourse to emetics to produce more violent expulsive efforts. Those most in use are ipecac, turpeth mineral, sulphate of copper and alum. My experience is confined to the first two. Although permanent benefit is rarely the result of the administration of an emetic—with me it has never been—a full dose of ipecac, or turpeth mineral may be given with a view of detaching the membrane from the larynx or expelling a loosened piece. Should benefit follow it may be repeated at appropriate intervals. In the last stage, when reflex irritability is obtunded by carbonic acid poisoning an emetic will often fail to act and should be given with circumspection, as it can do but little good and may prove a dangerous gastro-intestinal irritant should tracheotomy be performed.

In all cases there occur, especially in the second stage, spasmodic attacks of distressing and dangerous dyspnoea. Quinine and steam, as stated above, relieve this symptom to a certain extent, but often more direct anti-spasmodics are necessary. Bromide of ammonium, in full doses, and opium, I have found to be the most efficient.

In the last stage of the disease stimulants are required to whip up the exhausted respiratory nervous centre and muscles. When a tracheotomy is contemplated I am very particular in regard to this point.

Now, to sum up, in a few words, the medical treatment that I think will give a child with croup the best chances of recovery: the patient should be placed in a warm moist atmosphere and a cathartic administered; if pharyngeal disease be present, proper local treatment directed thereto; in suitable cases a bag of

ice, or cold cloths, applied to the neck; full doses of quinine and moderate cinchonism kept up; the steam atomizer used as continuously as possible; an occasional emetic during the first and second stages; anodynes to relieve spasm, and stimulants to sustain the strength.

In regard to the efficacy of the above treatment, even when faithfully carried out, I can say but little. In most of my cases medical treatment was almost useless, and my experience, I find, corresponds with that of all physicians who have many cases of membranous croup to treat. The few cases that I have had recover with medical treatment belonged to the milder forms of the disease; they were cases in which the local symptoms, particularly, were not severe. In none of them was the dyspnoea great enough to cause immediate apprehension.

I would emphasize the lesson that my experience has taught me: that is that in a large percentage of the cases of membranous inflammation of the larynx, tracheotomy is the only treatment that offers any hope of success, and that whatever medical treatment is instituted it should never be of such a character as to unfit the patient for that operation.

SUDDEN DEATH DURING OR SOON AFTER CONVALESCENCE FROM DIPHTHERIA.

By J. FRANKSON, M.D., L.R.C.P., Assist. Demonstrator of Anatomy, Toronto School of Medicine, Canada.

In a paper published in the *Med. News*, Dec. 15, 1888, the writer concludes as follows:—

I have already said that, in cases where sudden death occurs when the patient has recovered from the disease, I do not think this sad termination is due to the actual presence of poison circulating in the blood, and coming into contact with the nerve-centres; yet the sudden death could follow as a direct result of the depressing influence this poison had upon them during the continuance of the disease. Though this poison no longer exists, yet the weakened state of the nerve-centres exists, and a strong emotion or a sudden effort proves too much. The effort or emotion is the extra straw that breaks the camel's back. The weakened nervous system, which can just carry on the great involuntary functions of circulation and respiration, while everything is quiet, suddenly fails when an extra task is imposed upon it, of either physical or an emotional character. From two of my cases, I firmly believe that the condition is central, and not peripheral; but what that central condition really is, remains for the future to reveal. I regard it as a depraved and weakened one. If I am asked why it should occur with diphtheria, I can no more answer the query than tell why the poison of typhoid fever causes the very circumscribed congestions which produce the rose-colored spots.

In the case of Charlie H., I made a careful microscopic examination of parts of the vagi, but with negative results. No evidence could be found of the existence of a hyperæmia, nor of plastic effusion, within the nerve sheaths, as one would expect were the theory of Edward Woakes true, as this patient died during the progress of the disease. Dr. Woakes maintains that the sudden death in these cases is due to vaso-motor paralysis of the nutrient vessels of the vagi, so that these nerves are gorged with blood, and are unable to conduct inhibitory impulses, and this speedily wears itself out, being exhausted by a succession of rapid beats.

CHRONIC GASTRO-INTESTINAL CATARRH IN CHILDREN.

By LOUIS STARR, M.D., Lect. on Diseases of Children, Post-Graduate Course, Univ. of Pa., Philadelphia.

We take the following from a lecture published in the *Archives of Pediatrics*, Jan. 15, 1884:—In treating chronic gastro-intestinal catarrh there are several indications to be fulfilled. Since the excessive secretion of tenacious mucus is

the prime cause of the symptoms, our efforts must be directed to the liquification of this secretive, to its expulsion from the intestine and to the preventive of its reformation. In the alkalies, we possess the means of accomplishing the first; in the laxatives, the second; and in the simple bitters, the third. These different medicines may be combined as in the following prescription, which I shall order for the patient in hand, viz: *R. Sodii Bi-carb. 3 i.; Ex. Sennæ Fid. f 3 iij.; Infus. Gentian. Comp. q. s. ad. f 3 iv. M. Sig.* Two teaspoonfuls to be taken three times a day before meals.

In addition you must remove the cause of the disease, in other words, you must stop the injurious diet. Of course the articles of food especially to be avoided are those containing starch, as they are most prone to fermentation. The albuminoid articles are affected less than the starchy, and milk is affected least of all. A child of the age of our patient (8 years) should be placed on a diet of milk, eggs, meat broths and a small quantity of bread. I should advise for *breakfast*, at seven o'clock, one or two glasses of milk guarded with one-third lime water, (partly for the purpose of breaking up the curd, but chiefly for its effect upon the mucus) the yolk of a soft-boiled egg and a slice of stale bread. For *dinner*, at two o'clock, a mutton chop, or a piece of broiled beefsteak or rare roast beef without fat, and a slice of stale bread, with water to drink. Alternating with meat for dinner, you may give, on different days, chicken, beef or mutton broth, taking care that all the fat be removed. For *supper*, at seven o'clock, the same articles as for breakfast; milk-toast may be substituted for the stale bread. If the child be hungry between meals, a glass of milk and lime-water may be taken. For thirst nothing should be allowed but filtered water.

There are still two points to be referred to, namely, the clothing and bathing. As the skin is pale and dry, and as power of resisting changes of temperature much impaired, the *whole surface* of the body should be covered with woolen material. The child should be bathed twice a day; in full bath in the morning and a sponge bath in the evening, after which the surface of the abdomen should be well rubbed with warm sweet oil.

INFANTILE LEUCORRHEA.

In a Clinical Lecture by Professor T. GAILLARD THOMAS, published in the *Chicago Med. Journ. and Examiner*, we find the following:—

Not infrequently mothers will bring their little girls to you in this condition, and they will sometimes be in a state of great agitation, because they are afraid the trouble has been the result of injury done the children. There is ordinarily no reason whatever to suspect anything of the kind, and you can at once quiet the anxious mother's mind. The affection is a perfectly simple one, and is perfectly curable also. What is it, then? It is generally known as infantile leucorrhœa; but infantile vaginitis would be a better term for it.

Now as to its causes. One of the most frequent of these is neglect of hygienic precautions. There is generally no intentional neglect on the part of mother or nurse; but on account of the undeveloped condition of the part, an accumulation of hardened secretion sometimes collects in the same way as that which not infrequently gives rise to balanitis in the male child. Another common cause is the depreciated condition of the child's system, such as that due to *spanzemia*, in which all the mucous membranes are apt to become more or less affected. Thus, there is often gastric and intestinal, as well as nasal catarrh. A third cause that may be mentioned is reflex influence from the rectum. The cause of the irritation in the rectum is usually ascarides, and an afflux of blood to the part is caused by the itching and irritation. In some instances, the ascarides, by getting into the vagina itself, are the direct cause of the trouble.

The prognosis of this affection is, that it may be cured at once if it is properly treated.

In the treatment, the first thing to do is to see if there are any worms present, and if so (or there is any reason to suspect that such is the case), use an injection of warm salt water. The next thing to do is to get the child's general system in the best condition. The vagina should be thoroughly washed out by means of a syringe provided with a small nozzle, which ought to be well oiled before being introduced. In order that the canal may be perfectly cleansed, the child should be placed upon the back. In some cases the mere removal of the accumulated secretion, which is a constant source of irritation, is all that is necessary; but if the trouble has gone on for some time, this may not be sufficient. Something further is then needed, and one of the best applications to use is the old-fashioned black wash (calomel and lime-water) in the strength of one ounce to a pint of water. Before using this (which should be done twice a day) an injection of simple warm water should be made. I have never yet seen a case of infantile leucorrhœa that could not be cured by such treatment as this; so that there is no necessity of resorting to astringents and nitrate of silver, which may perhaps do harm.

But there is one mistake which is apt to be made by the physician in these cases, on account of which a much longer time may be required for a case than is at all necessary, and that is, the failure on his part to show the mother or nurse how to introduce the nozzle of the syringe properly. Mothers, unless they are especially instructed in regard to this point, never carry the nozzle more than an eighth of an inch up into the vagina, and as it is above this that the degenerating pus is found, there will be no improvement, simply because the injections fail to reach the real source of trouble.

CHOREA AND RHEUMATISM.

The following was taken from the editorial columns of the *Medical Record*, Feb. 2, 1884:—

Dr. Octavius Sturges has published a contribution to this subject in the *Lancet* for November 10, 1883, in which he gives analyses of 70 cases of chorea admitted to the hospital for sick children, Great Ormond Street, London. He gives the following results of his analyses of these and of his 132 previous cases. Of the 70, eight had had rheumatic fever previously; ten had had some form of rheumatism previously; one was doubtful on this point. Comparing these figures with the 132 cases previously given, it will be seen, he says, that in the latter number there were seven who had rheumatic fever; fourteen or fifteen who had had rheumatism; six doubtful; five not ascertained. Thus, 202 cases yielded fifteen in which rheumatic fever had occurred previously; twenty-four or twenty-five in which eleven patients had pains supposed to be rheumatic; and twelve doubtful or unknown. "We have thus, in a review of over 200 cases, a percentage of acute rheumatism of $7\frac{1}{2}$, and a percentage of joint pains, presumably rheumatic, of about 12; or grouping the two together, we have 19 per cent.—say one in five of chronic patients (children) who have probably had some form of rheumatism."

The above makes the proportionate number of rheumatic histories in cases of chorea considerably less than is usually given.

Sturges has studied the matter with care, and states that the normal proportion of cases of rheumatism among persons received as hospital patients cannot be less than 15 per cent. for children and 20 per cent. for adults. In order, therefore, for the per cent. of rheumatic histories in choreic children to be above the normal, it must exceed 15 per cent. His own statistics show that the rheumatic cases but slightly exceed this average. Other statistics have shown that rheumatism is more frequent in boys, while chorea is four or five times more frequent in girls. The evidence at present thus compels one to be careful in ascribing too close a connection between rheumatism and chorea. There is undoubtedly some relation between the two diseases, but its exact nature is a problem for the future to solve.

VAGINITIS AND VULVITIS.

By ALEXANDER J. C. SKENE, M. D., Prof. of Gyn. and Surgeon to the Long Island Coll. Hospital.

The following was taken from a clinical lecture published in the *Med. News*, Jan. 12, 1884: It is not easy to differentiate between an ordinary vaginitis which is caused by uterine disease, and the specific vaginitis which is of gonorrhoeal origin. The most important point in the history, is in the difference of the onset of the attack. In the benign or non-specific variety, it comes on slowly, the patient usually having the history of some preëxisting uterine disease, and then by degrees the vaginitis is developed, slight at first, and gradually growing worse; whereas the specific vaginitis is developed promptly, and is more likely to begin at the introitus and extend upward,—that which is consequent on uterine disease descends downward, and rarely involves the urethra and meatus. These points are important, and we should always bear in mind, as it is impossible to differentiate by the mere physical signs. I have seen, especially among insane people, a vaginitis which I knew was not gonorrhoeal, as there was no means by which the disease could be contracted, and yet it was extremely difficult to be sure that it was non-specific, and due only to some uterine disease or to the filthy habits of the patient herself.

When a vaginitis begins abruptly; when it involves introitus, meatus, and urethra; and when you find that it does not extend the entire length of the vagina, you may take it for granted that it is specific—this is a strong evidence in its favor. Or if you have the good fortune, as I did the other day, *i. e.*, a gentleman, whose wife was under my care, came to me and said: "Doctor, I am afraid you may find new developments in my wife's case, as I have exposed myself;" now when you have a history of that kind and which develops under your observation, then you know what it is.

As regards the treatment of this disease, it is simple and always satisfactory, if you adopt the best possible means of management. The great object is to keep the parts clean; the longer this purulent formation is allowed to remain in contact with the tissues the more it irritates and aggravates the disease. We could cure a vaginitis in a few days if we could keep the vagina perfectly clean. In some neglected cases I adopt this plan, *viz.*, separate the inflamed vaginal walls, and keep them apart by marine lint, so that the moment the purulent discharge is thrown out it is absorbed; it is simply a method of treatment according to the rules of antiseptic surgery, disinfecting the parts as the discharge forms. The douche, however, is very effectual. It prevents the accumulation of the discharge; if you allow the patient to lie on her back with the hips elevated, and then use the fountain syringe for half an hour four or five times a day, you will succeed in your treatment very well. It is not so much the preparation which you use, as the thoroughness of its application, and the care and frequency with which you use it; keep the surfaces of the mucous membranes perfectly clean, that is the great object.

I saw the other day, in one of the English journals, a mode of treating gonorrhoea in the male by just this method.

Another point in the disease is that it is very liable to remain latent in some fold of the mucous membrane; generally behind the cervix the disease will lodge and linger. I learned a very important lesson when I first commenced the practice of gynecology. I had a case of vaginitis which I cured repeatedly, but did not remain cured, and finally I sent the patient to the late Dr. J. Marion Sims; he wrote me a very kind letter, and told me that I had overlooked a little pocket where this disease lingered, and that from this point the disease again started. He told me to expose the parts with his speculum, and I would find this little pocket behind the cervix in the fold of the mucous membrane, and which I had failed to cleanse with my douche. I then carefully examined the patient, and found it as he described; then carefully cleansing the parts I had no difficulty in effecting a permanent cure.

This trouble, when it involves the urethra, is liable to creep up into the two urethral glands which lie just within the meatus, and remain there; so that you may cure the vaginitis, and it will then start afresh from this source. Af-

ter I had called attention to the anatomy and pathology of these glands, as secreting the gonorrhoeal discharge, a physician in Illinois published two cases, those of husband and wife, which he had cured repeatedly of gonorrhoea, but the disease constantly returned. He then discovered the gonorrhoeal inflammation of these glands; apparently to all external appearances the parts were looking well, but by pressure upon the urethra of the woman he could cause a little drop of matter to escape. He then laid the ducts open and was enabled to cure the disease.

If you will remember these two points, you will have no difficulty in treating vaginitis, and your patient will not return in a few days and inform you that your treatment has not effected a permanent cure.

Vulvitis or vaginitis occurs in those children suffering from struma or ascarides, and sometimes in those who are tolerably healthy, who, running around until they become excessively warm, sit down upon a cold stone and take cold, getting up a little catarrhal inflammation of the vulva. Now here we have the physical signs, in quite a marked degree, of the ordinary catarrhal or purulent vulvitis in children. The outer parts of the vulva are frequently covered with dried pus, while a little further in are little masses of muco-purulent material. The character of this discharge is peculiar. The vulvitis is exceedingly annoying, and not uncommon, by any means; it is also very difficult to cure, unless you have great patience. These cases are extremely difficult to cure if they are complicated with vaginitis. When there is only vulvitis the characteristic discharge of vulvitis alone will be present, that is, a muco-purulent discharge, somewhat tenacious, you observe how it hangs together. When vaginitis is present with the vulvitis, we get a milky discharge, very abundant. I have seen little girls who would saturate their garments with the discharge so that when they were dried they would be as stiff as if they had been starched. In vaginitis, even though the vaginal discharge be purulent, it remains fluid, not tenacious like that which comes from the vulva. You will usually be able to make your diagnosis by the character of the discharge.

In vulvitis and vaginitis; if you will only keep the parts clean, they will get well. This, however, is no easy matter when treating the poorer classes. The longer you permit this discharge to remain, so much the more will this inflammation be kept up. The parts should be bathed constantly, every two or three hours during the day; carefully wash the parts with a little borax and water, and then apply some dry powder; the one that I prefer is bismuth mixed with a little chalk; have it finely powdered and dust it on; iodoform also answers the same purpose, but the odor is not very pleasant. These applications have a soothing and quieting effect upon the mucous membranes, and keep the surfaces apart.

In vulvitis this is about all that you will have to do locally. You must keep up persistent cleanliness, and also attend to the general health of your patients; build them up with good diet, cod-liver oil, iron, and so forth. If you do that, they will get well. But it is otherwise if you have vaginitis; you then have to use the vaginal douche, carrying it up carefully to the end of the vagina, and carefully wash the part with a solution of borax and water, afterward washing it with a mild solution of zinc or hydrastis canadensis. These cases are extremely difficult to cure, because the mucous membrane of the vagina is full of deep rugosities, and the wash does not come in contact with all parts. You therefore require to distend the vagina as much as possible while using the local applications, but even then there may be little places where some of the discharge will remain, and by and by it will beget the old trouble anew. Some authors say that if you have tried all these means and failed, it is better to place the patient under an anæsthetic and then, distending the vagina, touch every part of the mucous membrane with a solution of nitrate of silver, and follow it up with a douche. Eternal vigilance is the price you have to pay for success. Still more, you must superintend the treatment yourself, unless you have a very intelligent mother or nurse to carry out your instructions.

ADDENDA.

AN ANODYNE MIXTURE WITHOUT OPIUM.

Dr. A. P. MEYLER in the *Med. Record*, March 8, gives the following formula for an anodyne suitable to administer to patients cured of the opium habit. R. Chloroform, .100; ether. sulphur. spts., .025; tinct. cannabis, .175; Acid. hydrocyan. dil., .080; hyosiciamia, q. s.; ol. menth. piperit, .008; tinct. capsici, .008; alcohol, 95 per cent., 350; glycerine, ad. 1.000. Dose, 10-30 m.

THE WRITING OF GALEN.

The *Amer. Practitioner* says:—Most of us have but a faint conception of the vast extent of the writing of Galen. In a sketch of his life by Dr. G. J. Fisher, in the *Annals of Anatomy and Surgery*, as the result of a careful comparative computation, it was found that the united lines of the Bible amount to sixteen thousand feet, while those of a Greek edition of Galen extended to eighty-seven thousand feet, or sixteen and a half miles, exclusive of all headings, notes or references. It is five times more voluminous than the entire Bible. But this represents only his extant works. A portion of his manuscripts were destroyed by fire and not a few by the lapse of time. It is supposed that he wrote no less than five hundred treatises, of which one hundred and sixty-eight are supposed to be lost. He wrote not alone on medicine, but on mathematics, logic, and philosophy. Most of his writings were in Greek, elegant in style, but prolix and abounding in conceit, yet fluent, "fresh and familiar as if spoken yesterday."

HICCUP.

Dr. TUCKER, in the *Southern Med. Record*, says this very common affection has a specific remedy, at least one which I have never known to fail. Moisten granulated sugar with good cider vinegar; give to an infant from a few grains to a teaspoonful. The effect is almost instantaneous, and the dose seldom needs to be repeated. I have used it for all ages, from infants a few months old to those on the down-hill side of life.

HISTORICAL NOTE ON CONVALLARIA MAJALIS.

The *Maryland Med. Jour.* quotes from Dr. EDWARD DRUMMOND, of Rome, who writes to the *British Med. Jour.*, and says that he has lately met with an account of the use of this drug, in cordiac disease, as far back as the commencement of the seventeenth century. It occurs in an old Italian book, published in Venice in 1621. The writer says:—"The Germans use lily of the valley to strengthen the heart, the brain, and spiritual parts, and also give it in palpitation, vertigo, epilepsy and apoplexy; also as a remedy for the bites and stings of poisonous animals; to quicken parturition, and for inflammation of the eyes."

HOARSENESS IN SPEAKERS AND SINGERS.

The *Jour. of the Amer. Med. Ass'n* says:—M. CORSON advises the placing in the mouth of a small piece of borax, about two or three grains; it pro-

duces an abundant salivation, and the voice becomes clear. He also recommends the use of a couple of grains of potassium nitrate in a glass of sugar and water, or an infusion of 48 grains of jaborandi, and—shortly before using the voice—of a gargle with 6 or 7 ounces of a decoction of barley, 1 to 2 drachms of alum, and 2 drachms of honey of roses.

QUEBRACHO IN DYSPNŒA.

The *Med. and Surg. Reporter* says:—Prof. DA COSTA has had some very satisfactory results from the treatment of dyspnœa by quebracho. In a recent lecture he said that in his experience it had been especially serviceable in two classes of cases: (1) in purely nervous asthma he had found it to be invaluable; (2) in cases which have been rather loosely called cardiac asthma, cases in which a heart lesion has produced failure of cardiac contraction and consequent congestion of the lungs, he had also known it to be very useful. It may serve as a cardiac tonic, or may do good solely by its action upon the respiratory centre in the medulla. Whatever may be the explanation, however, it gives wonderful relief in appropriate cases. The way in which he gives it is the fluid extract in doses of twenty minims every hour, gradually increasing the amount, some patients requiring as much as a drachm before relief is obtained. The good effects are observed usually after two or three doses have been taken. The taste is well covered by using equal quantities of the French syrup of red orange and water as the vehicle. In this form it usually agrees with the stomach. As the respiratory symptoms are relieved, the remedy may be given at longer intervals.

REMEDY FOR COMEDONES.

The *Amer. Jour. of Pharm.* recommends acetic acid, which is conveniently applied in the following way:—Make an ointment of kaolin (potter's clay), four parts; glycerin, three parts; acetic acid, two parts. Cover the part affected in the evening; after several days most of them come out by washing with pumice soap.

NUMBER OF MEDICAL PRACTITIONERS IN THE WORLD.

The *Maryland Med. Jour.* gives the following:—It appears from a preliminary investigation made by the library of the Ecole de Médecine that the number of medical practitioners spread over all parts of the globe amounts to 193,000, among whom 18,258 devote themselves solely to advanced medical study. This is the manner in which these medical practitioners are distributed, according to their countries, viz.:—65,000 in the United States, 26,000 in France, 32,000 in Germany and Austria, 85,000 in Great Britain and her colonies, 10,000 in Italy, 5,000 in Spain, etc. If the estimate for other countries is as low as that assigned to the United States, which contains nearer 90,000 than 65,000 physicians, the estimate of 193,000 for the entire world is far below the real number.

A PLEASANT DISINFECTANT FOR ROOMS.

The *Med. and Surg. Reporter* quotes from an Italian journal that a few drops of the following mixture on a plate will pleasantly disinfect a bedroom:—Camphor, 20; hypochlorite of lime, alcohol, and water, of each, 50; eucalyptus and oil of cloves, of each 1 part. The ingredients must be mixed slowly in a cool, spacious vessel.

ADVICE TO MEDICAL STUDENTS.

Mr. JONATHAN HUTCHINSON, says the *Amer. Practitioner*, sums up his advice to medical students in the following formula:—"Prize strength, love the beautiful, practice self-denial, and be patient."

A THIN SKULL.

Dr. JOHN A. WYETH presented to the *New York Path. Soc.* a piece of bone removed with the trephine from the skull of an adult. It showed the average thickness of the skull and was the thinnest he had ever seen, being only about one-sixteenth of an inch thick.

APIOL IN DYSMENORRHOEA.

This remedy, says the *Canada Lancet*, which has been recently introduced to the notice of the profession through French sources, has already acquired an excellent reputation as a remedy for dysmenorrhœa. Dr. Fordyce Barker, of New York, who has given it a prolonged trial, regards it as almost a specific. He gives lactate of iron and chlorate of potash three times a day, and when symptoms of menstruation begin he gives apiol in capsules, night and morning. It relieves the pain and promotes the menstrual discharge.

THE QUININE TREATMENT OF WHOOPING COUGH.

The *N. Y. Med. Jour.* says this plan has been made the subject of renewed investigation by M. Poskin, who has compared it with the methods of treatment by the bromides, by belladonna, and by emetics. In twenty-eight cases in which he employed the tannate of quinine he found that it invariably shortened the spasmodic stage, and diminished the intensity of the paroxysms. He does not agree with Binz that its action is that of a parasiticide, nor does he regard it as a specific. He prefers to give large doses toward evening, all within the space of half an hour. For children he uses the tannate, but for adults the sulphate.

LOCAL ANÆSTHESIA.

According to the *Medical News*, local anæsthesia may be readily produced by applying with a camel's hair brush the following mixture:—℞. Chloral, camphor, ʒʒ 3j; morph. sulphat., 3ss; chloroform, 3j. M. et. Sig.—To be applied with a brush to the area to be incised.

BROMIDE OF ARSENIC IN DIABETES.

According to the *Canada Lancet*, Dr. PEKAI, clinical assistant to Prof. Karaonyi, of Buda-Pesth, from a series of experiments with bromide of arsenic in diabetes, proves the remedy to be exceedingly satisfactory. He uses a solution prepared as follows:—℞. Arsenious acid, carbonate of potash, bromine, ʒʒ gr. jss; water, q. s.

The arsenious acid and potash are placed in an eprouvette, five drops of water are added, and treated until the liquid is limpid. Then sufficient water is added to make two and a half drachms by weight, and then the bromine and the whole let stand for twenty-four hours before use.

The solution was administered by placing three drops in an ounce of water, of which three equal doses were made. The quantity being increased, an additional drop every three days until ten drops a day were administered.—*Canada Lancet*, Feb., 1884.

"URSU-OSIS."

The *Med. Record* describes this affection as follows:—It is said, and probably with truth, that the year never ended with so many persons made actually sick by the bearish condition of the market. Melancholia, general nervous asthenia, with occasionally sugar in the urine, seem to be the characteristic features of a condition which we may term "urso-osis." About seventy per cent. of all railroad presidents, ironmen, and buyers on margin are now affected with it.

ON THE ACTION OF AGARICIN IN THE NIGHT-SWEATS OF PHTHISIS.

The *Jour. Amer. Med. Ass'n* says that the agaricus albus, of now almost obsolete reference, has been recently brought into use from the fact that the chemists have extracted the active principle, to which the name has been given of Agaricin. Andrel found the agaric in powder in doses of eight grains, gradually increased to a drachm, useful in the night-sweats of phthisis. And now Dr. Otto Seifert calls our attention to the agaricin as used for the same purpose. It is not positive in its action and must often be given in increasing doses, but it induces sleep, relieves cough and lowers the pulse. According to Dr. Seifert's experience, a full dose exerts its influence during five to six hours, when, knowing the period for the onset of the sweats in phthisis, it must be renewed for that purpose. He gives the drug in doses of 0.004 to 0.02 gramme; and has met with success by using it hypodermically, his formula being: Agaricin, 0.05; alcohol abs., 4.5; glycerine, 5.5; producing a pretty severe burning sensation for half an hour. He gives preference to the internal administration.

SWEATING IN PHTHISIS.

The *Med. and Surg. Reporter*, says:—Dr. J. R. FORREST in the *Lancet* recommends the following as most efficacious: R. Sulphate of zinc, gr. iv.; tincture of belladonna, 3j; water, 3j.

The body to be sponged with the lotion at bed-time.

It has proved serviceable in my experience in cases both of the incipient and advanced disease, the excessive sweating being often quite restrained after two nights' sponging.

CITRIC ACID IN CANCER.

The *Amer. Practitioner* says:—Dr. BRANDINI, of Florence, has recently discovered that citric acid will assuage the violent pain which is the usual concomitant of cancer. He applies to the part pledgets of lint soaked in a solution of four grains of the acid in three hundred and fifty grains of common water, with the result of affording instantaneous relief in the most aggravated cases.

CITRATE OF MAGNESIA SOLUTION.

P. W. B., in the *Pharmaceutical Record*, says:—The following formula has been used for many years with entire satisfaction:

For one bottle—Carbonate magnesia, 120 grains; citric acid, 240 grains; water (previously boiled) a sufficient quantity; oil of lemon, 5 drops; syrup, 1½ fl. ounces; bicarbonate of potassium, 30 grains.

Drop the oil of lemon on the carbonate of magnesia, place the citric acid in a jar with the water, dissolve, add the carbonate of magnesia. When dissolved, filter into the bottle, in which the syrup has been previously placed; fill the bottle nearly full with water (previously boiled and filtered) and add the bicarbonate of potassium, when it must be at once securely corked. This preparation will purge actively and keep indefinitely.

NERVOUS COUGH.

The *Med. and Surg. Reporter* speaks of a disagreeable, dry, hacking cough, unaccompanied by evidence of lung trouble, and says that Dr. J. Mortimer Granville considers this cough to be due to irritation of the recurrent laryngeal and pneumogastric nerves. It is important that it should be relieved, because the cardiac and gastric irritation which it produces, will cause such nutritive changes in the bronchial membrane and sub-mucous tissue, as to induce a low inflammatory action and the deposit of tuberculous lymph. To

relieve it, he advises blistering over the pneumogastric nerve (along the whole anterior margin of the sterno-cleido-mastoid muscle will be near enough) with glacial acetic acid. This should be repeated every two weeks until the cough is relieved. Each side may be blistered alternately.

COMBINATIONS OF SALICYLIC ACID.

The *Med. and Surg. Reporter* publishes the following:—*B. Sodii bicarbonatis*, 3 ij; *acidi salicylici*, 3 iij; *glycerinæ*, *aquæ puræ*, aa 3 ij. *M. et. Sig.*—One teaspoonful every 4 hours.

B. Acid salicylic, grs. 100; *borax*, grs. 80; *syr. limonia*, oz. 8; *aq. menth. pip.*, oz. 8. *M.*

LEMON-JUICE AND OYSTERS.

The *Amer. Practitioner*, quoting from the *Lancet*, says:—Many popular usages in ordinary life have been adopted either by instinct or from empirical notions, and thus it is a common practice to use lemon-juice with raw oysters. It appears, however, from the researches of M. Certes, a distinguished microscopist and biologist, that this practice is not only a matter of taste, but that it has its utility, as lemon-juice has the property of destroying the animalcules which infest the stomachs of oysters. The moral to be drawn from this is that oysters must be cooked, or, if eaten raw, should be accompanied by lemon-juice to avoid the possible evil consequences of parasiticism.

FOETID AND SWEATING FEET.

Dr. A. M. VAIL, in the *Jour. Amer. Med. Ass'n*, recommends the following very highly:—*B. Aluminii et ammo. exic.*, grs. 2; *acidi boracici*, grs. 2; *aquæ simp. or rosæ*, grs. 35. *Mix et. Sig.*—Apply with soft sponge without rubbing, just as soon as the shoes and stockings are removed, while the feet are yet moist. This is quite necessary, as also the care not to rub.

Let this be repeated every two or three days, in the evening.

PALMAR PSORIASIS.

When you examine the hand of a patient, says HEBRA, according to the *Amer. Practitioner*, and find on it the evidences of palmar psoriasis, be that hand the jeweled and perfumed one of a queen or the dirty paw of a beggar, it is the hand of a syphilitic.

GELSEMIUM FOR AFTER-PAINS.

Dr. L. E. HOLT, in the *N. Y. Med. Jour.*, December 8, 1883, says he has used the fluid extract of gelsemium, in doses of a fraction of a drop, frequently repeated. In the case of a patient in whom opium was not tolerated, and where all other remedies had been tried, the relief from gelsemium was prompt and decided.

THE PATHOLOGY OF PREGNANCY-VOMITING.

Dr. GRISWOLD, in the *Louisville Med. News*, Dec. 1883, says:—After considering the various theories of the vomiting of pregnancy suggested by Hewitt, Bennett, Sims, Copeman, and others, holds that the opinion that this disorder is caused by uterine deviations from a healthy condition is not correct. He regards the fact of pregnancy as the cause in the vast majority of cases, and says that "the practitioner who loses sight of this old view in his study of the newer lights may be led into unnecessary errors of surgical treatment in a great many cases which would be much more sensibly cared for by easier and more agreeable means."—*Med. Times*, Jan. 26, 1884.

EXTERNAL APPLICATION IN ACNE ROSACEA.

The *Med. and Surg. Reporter* says:—The following preparation is recommended by Helmayen: R. Slaked lime, 1 part; sublimed sulphur, 2 parts; water, 20 parts. To be reduced by heat to twelve parts.

This is to be used for topical applications to the affected parts, and must at first be diluted with five parts of water, but gradually it may be used in a more concentrated form.

 HYPERTROPHY OF PROSTATE IN CHILD THIRTEEN MONTHS OLD.

Dr. MUDD (*St. Louis Med. and Surg. Jour.*, Nov.) presented to the *St. Louis Medical Society* a specimen of hypertrophy of the middle lobe of the prostate gland removed from a child thirteen months old. The child had been healthy until within a few weeks of its death. Retention of urine was the first symptom noticed, and the mother called the doctor's attention to the fact that the child never turned or rested on its stomach. An examination per rectum determined a large tumor presenting anteriorly and connected with the bladder. The microscopic examination by Dr. Luedeking showed the tumor to be an hyperplastic myoma of the prostate gland, and in his opinion it had been developed as an intra-uterine growth. The tumor was about the size of a small lemon.—WM. P. WATSON, M.D. in the *Archives of Pediatrics*, Jan. 15, 1884.

 RE-OCCURRENCE OF SCARLET FEVER.

The *Med. and Surg. Reporter* says:—The question has been recently asked whether scarlet fever can occur twice in the same person, and at how short or long intervals. Several reported cases seem to indicate that it can recur at exceedingly short intervals; and now Dr. Martin Oxley reports an instructive case in the *Lancet*, October 27, 1883. On October 31, 1871, a boy of four years had typical scarlet fever; on December 3, he was seen and was well; on December 5, he had a typical scarlet rash, and after passing through an attack similar to that of a little over a month before, including the desquamation, he made a complete recovery.

 A SURVEY OF THE LITERATURE OF THE DISEASES OF CHILDHOOD.

Dr. JOHN R. QUINAN (*Med. Med. Jour.*, Dec. 1) criticises severely, but justly, certain portions of an address on this subject, read before the *Brit. Med. Ass'n*, 1883, by Dr. S. Gee, F.R.C.P. Some of the obnoxious parts are that the writings of Celsus, Aretæus, Aurelian and Paulus Ægineta upon diseases of children are not worth noticing. That the seven hundred years between Rhazes and Glisson "added hardly anything to our knowledge."

Dr. Gee claims Glisson as the discoverer of rickets, while the author shows that Dr. Daniel Whistler's was the earliest published account (1645). Dr. Quinan objects to the assertion that the works upon diseases of children written in the eighteenth century were "bad enough" and some of them the merest "twaddle."

Dr. Gee believes "the first bronchotomy in croup was done by John Andrie, February 11, 1782, at Hereford." Dr. Quinan shows that it was first performed in Great Britain by George Martine, in 1780, at St. Andrews. Martine first used a lead tube, then substituted a silver canula.—JOHN VAN VORST, Jr., M.D., in the *Archives of Pediatrics*, Jan. 15, 1884.

QUARTERLY EPITOME

OF

AMERICAN PRACTICAL MEDICINE AND SURGERY.

WESLEY M. CARPENTER, M. D., Editor.

The fifth volume of the **QUARTERLY EPITOME** begins under a new editorial management. The general plan of the journal will remain substantially unchanged, and while this continues it will be devoted to scientific work exclusively, as obtains in its prototype, *Braithwaite's Retrospect*.

We shall endeavor, therefore, to furnish our readers with the cream of American medical literature, in either abstracts or extracts, and arranged with special reference to the headings found in the table of contents.

This will not exclude absolutely articles possessing special merit, which appear in the medical journals of this country as translations and from time to time such selections will be published.

A limited amount of space will be devoted in this department to reviews. Of necessity these cannot be elaborate, but we shall aim to make them critical, comprehensive and just.

We hope to enhance whatever merit the **EPITOME** may have heretofore possessed, and to this end our best efforts will be directed. The work of the present number however, came to us when we were unprepared to devote to it the time required to make the publication meet our best expectations, and we therefore ask the indulgence of our readers for whatever short comings it may contain.

We salute our brethren of the editorial corps, with many of whom we have the pleasure of a personal acquaintance, and whose friendship and ability we hold in high esteem.

The Prevention and Treatment of Puerperal Fever has been the topic of

a noteworthy discussion during the last quarter. Dr. T. Gaillard Thomas read a paper before the New York Academy of Medicine in December, in which he accepted unqualifiedly the doctrine of the identity of puerperal fever and puerperal septicæmia; that the essence of the disorder is a poison which is absorbed into the blood of the parturient woman through some solution of continuity; and that puerperal fever is nothing else than the infecting of fresh wounds, such as are found in every newly delivered woman, with these destructive septic materials.

Dr. Fordyce Barker opened the discussion in February with a paper in which he expressed his conviction as unqualifiedly as had Dr. Thomas, that in private practice, where there is no epidemic influence, the causes which induce local inflammation in the non-puerperal, as well as the process of parturition, are efficient in the production of twenty cases of local inflammation in the lying-in woman to one due to septic absorption. He regards the epidemic disease as essentially different from the local inflammations occurring during the puerperal period, all of which Dr. Thomas groups under one head and believes to be due to a common cause—namely, that which produces septicæmia.

We have presented our readers with abstracts of these papers and also others upon the same subject. Numerically, those who accept the theory that micro-organisms constitute the essential etiological factor in this disease, or these diseases, are in the ascendency, although they were unable to maintain that the relation of cause and

effect had been demonstrated beyond question.

Giving the prisoner the benefit of the doubt, therefore, all those upon this side are willing to adopt antiseptic precautions in all cases of labor, but there is a difference of opinion concerning the propriety, the necessity, and the usefulness of the details given by Dr. Thomas.

The two views which have been entertained, concerning the essential nature of puerperal fever, have been set forth by two competent and accomplished observers, and men who have had an unusually large experience. They are worthy of careful consideration, and conscientious study on the part of every one who practices midwifery. The inevitable result of a candid discussion of any scientific subject is good, even though nothing more than unanimity of opinion appears in the interchange of views; but when the discussion is conducted calmly from different standpoints its intrinsic value is very much increased.

The relation existing between the bacillus tuberculosis and pulmonary phthisis has received considerable attention during the last quarter, and both clinicians and microscopists have contributed to the study of the subject.

Thus far the weight of evidence seems to sustain the statement that the bacillus is one of the characteristics of tubercle. The majority of writers, however, have not endorsed the view that the bacillus is the cause of pulmonary phthisis. These two statements, as will be readily seen, have a direct bearing upon the view that all phthisis is tubercular, the view which, at the present time, is predominant.

If the bacillus is the causative agent of tuberculosis, and, if all phthisis is tubercular, it seems plain that the only requirement is to kill the parasite in order to cure pulmonary consump-

tion. Unfortunately the first point has not been established, the indication cannot be readily met, if at all, and therefore the treatment of the affection will, for a time at least, remain substantially unchanged.

There is room for hope, however, and the basis of this hope appears in the abstracts of the communications with which we are able to furnish our readers. Dr. Austin Flint takes the position squarely that pulmonary phthisis is an infectious disease, dependent on a special causative agent, that this causative agent is the bacillus, that by means of the bacillus the disease is communicable, and that phthisis is primarily a local affection.

This is a novel doctrine as the writer says, and if it stands the test of critical investigation it will constitute one of the most important advancements made in the present era of medicine.

In connection with this part of the subject the questions of contagiousness and communicability of pulmonary consumption naturally comes forward. The weight of clinical evidence is against the view that the disease is contagious. The theory that the affection has a parasitic origin seems to lead one almost directly to the opposite conclusion. But there is a remarkable unanimity of opinion among clinicians on this point.

The most comprehensive summary of evidence on this question we have seen was contained in a paper read before the Philadelphia County Medical Society by Dr. Formad. We regret that we were unable to give our readers an abstract of it in the present number. It appears from this paper that, according to the observations of the most prominent clinical observers, there is not a single authenticated case of tuberculosis as a result of contagion on record. The statistics of the large Brompton Hospital for Consumption for thirty-six years, compiled by

Dr. F. Williams and published in the *Lancet*, 1888, gives no evidence in favor of the contagiousness of phthisis, and the same result was obtained from a compilation of the statistics at the Chest Hospital, Victoria Park, for the last fifteen years.

Dr. Formad also quotes the result of the investigation made by the Collective Investigation Committee of the British Medical Association on the communicability of phthisis, and "of 1,028 replies received, 673 negatived the idea of a contagium, while 261 replies favored it." Such a plan, however, he regards as unsatisfactory, "for the answers may be of unequal value because their worth must be estimated in proportion to the experience and authority of the sender."

The subject is one of deep interest, and from its study and discussion something may come yet which will aid the physician in staying the ravages of this malady.

BOOK NOTICES.

THE FIELD OF DISEASE. A Book of Preventive Medicine. By Benjamin Ward Richardson, M. D., LL.D., F.R.S., etc. Philadelphia: Henry C. Lea's Son & Co. 1884.

The author, who is one of the most lucid writers in the medical profession, says that this book was written for those members of the intelligent reading public who wish to know the leading facts about the diseases of the human family, their causes and prevention. It consists of three parts or books as he calls them. (1) Diseases, general, local, and those from natural accidents; (2) Acquired Diseases; (3) A practical summary of the origins, causes, and preventions of Disease. Under these headings a fund of general information is furnished, and is the only information, perhaps, which should be given to the intelligent reading public. But the intelligent public will not be satisfied with this

work for two reasons; first they cannot gain assistance from it in the treatment of any particular disease, and second they cannot comprehend the writing of the author because it is too scientific. We do not wish to underestimate the ability of the reading public, but it is very easy for the professional reader to see that the book contains an immense amount of material which is entirely beyond the comprehension of the non-professional generally.

The book does, as the American publishers state, contains much which the profession can read with interest; not because it is new, but because it is pleasantly placed by a competent writer. A large share of the book is really a dictionary, and the definitions of diseases are for the most part, very acceptable. We believe however that the volume would have been still more acceptable to physicians if it had been stripped of its popular classification and the material had been arranged alphabetically. It appears in the usual creditable style of the publishers.

A TREATISE ON PHARMACY; Designed as a Text-book for the Student and a Guide for the Physician and Pharmacist. By Edward Parrish. Fifth edition, enlarged, and thoroughly revised, by Thomas S. Wiegand, with 256 illustrations. Philadelphia: Henry C. Lea's Son & Co. 1884.

This book has been enlarged to give space for mentioning advancements in pharmacy, and it has been revised to keep it abreast with this progressive department in science. It is divided into seven parts, also has an appendix, and contains 1055 pp. of reading matter.

The first three parts are devoted to furniture and implements, pharmaceutical process and apparatus, etc. These are followed by parts IV and V, which contain several chapters on inorganic and organic chemistry, and

constitute the bulk of the book. Here are found the technique of this exact science, bearing the evidence of careful preparation.

Part VI has sixteen chapters devoted to "galenical pharmacy," which are introductory to the study of the preparations of the Pharmacopœia, and show the close relation which exists between pharmacy and the duties of the druggist.

Part VII has six chapters on "Ex-temporaneous Pharmacy," including such subjects as prescriptive writing, dispensing and compounding prescriptions, etc., etc. The Appendix contains a few pages "on the management of the sick chamber, articles of diet for the sick, physicians outfits, and recipes. There is a great fund of information in this volume, and it cannot fail to be valuable for either the student, physician, or pharmacist. The paper and printing are excellent, and the type is pleasing to the eye. The work is no less creditable to the editor than to the author.

THE MEDICAL DIRECTORY OF PHILADELPHIA FOR 1884. Edited by Samuel B. Hoppin, M.D. Philadelphia: P. Blakiston, Son & Co., No. 1012 Walnut Street. 1884.

Books belonging to this order always contain desirable information, and in the present instance it is conveniently arranged and tastefully published. It is liberal and gives the lists of homœopathic and eclectic as well as that of the so-called allopathic physicians.

There is another interesting list—namely—that containing the names of those who do not owe, never had, probably never expect to have any allegiance with anything. Each with his own bag of sulphur stands on the outside. It is not altogether impossible, however, that they are a decent set of men, for the very reason that they resisted the temptation to become the possessors of a diploma

from the Buchanan school which flourished luxuriantly for so many years in "the city of brotherly love."

INFLUENCE OF THE MIND UPON THE BODY, IN HEALTH AND DISEASE. By Daniel Hack Tuke, M.D., F.R.C.P., LL.D. Second American from the second English edition. Philadelphia: Henry C. Lea's Son & Co. 1884.

"Tuke on the Mind" is well known to those readers who have been interested in this department of medicine. It is a well-established fact that mind exerts a very powerful influence upon the body, both in health and disease. The effects, for example, produced by financial and domestic calamity, are too well known to have their existence questioned. The same is true concerning disease, doubtless, however less marked. Of course, in both instances there is a limitation to the effects produced by this influence. In other words, it would be folly to suppose that consumption can be cured by the work of the imagination; yet, it stands beyond question that a cough has been temporarily quieted by potions which really could exert only the calming influence of colored water or powders of flour. This volume is the work of one of the ablest writers of the day. It is a conservative, calm, and a well-formulated exposition of a subtle and intricate subject. "The question is, What is the extent of the influence of Imagination and Faith,—what are the limitations?"

Dr. Tuke's book is interesting not only for the professional, but for the non-professional reader.

To the publishers who kindly sent books to this journal for review, and the reviews have not appeared, we regret to say that there were only two volumes upon the editorial table when we took the chair.

QUARTERLY EPITOME

OF AMERICAN

PRACTICAL MEDICINE AND SURGERY;

Supplementary

TO

BRAITHWAITE'S RETROSPECT;

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN
THE MEDICAL SCIENCES, ABSTRACTED FROM THE CURRENT MEDICAL JOURNALS
OF THE UNITED STATES AND CANADA.

PART XVIII..... JUNE.....1884.



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PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

THE TREATMENT OF TYPHOID FEVER.

By GEORGE L. PRABODY, M. D., Visiting Physician to Bellevue Hospital, etc.

The following is from a paper published in the *Med. News*, March 29, 1884:—Disinfect all the discharges from typhoid fever patients immediately upon their being passed into the bedpan. Perhaps the best disinfectant to use is corrosive sublimate. It is cheaper and more effective than carbolic acid, and it does not stain the bedclothes as does the solution of sulphate of iron. We know that the stools of typhoid fever patients are not infective immediately upon their being passed, but observations are still wanting to determine the exact time at which they become so. It is known that the disease has been spread by stools that have been kept twelve hours for the inspection of the attending physician and then promptly disinfected, but more definite information than this is still lacking, so far as I am aware. Two years after the burial of fever stools in a dung heap several men engaged in removing the dung-heap sickened with the disease. It is certainly important to disinfect the intestinal contents upon the autopsy table before allowing them to reach the sewer.

After the disease has been contracted our first precaution should be to put the patient to bed at once, and keep him continuously there until convalescence has been fully established.

The bedchamber should, if possible, be large and well ventilated, and should contain two beds that may both be utilized by the patient. The temperature of the room should never be high if it can be avoided, and the patient's covering should be as light as is consistent with his comfort. All external irritation should be avoided, such as strong light, noises, conversation, and all mental and physical excitement. The service must be quiet and unobtrusive. The patients must never be needlessly opposed, but must be humored in little things, so far as they are not inconsistent with our treatment. A delirious patient must not be forcibly restrained, but must be soothed and quieted in such a manner as every nurse with tact and discrimination understands. A little more morphine, a large dose of brandy, a little tact, judgment, and good feeling on the part of the attendants may save a patient's life.

Taking the temperature in the rectum is certainly the best situation for the purpose. English writers seem to have found it difficult or impossible to do this, strange as it may seem to us, and they write in an envious strain of the advantages possessed by continental observers in this respect.

The appetite is usually much impaired, and there can be no doubt that the powers of digestion and assimilation are markedly interfered with; but Pavy and Hoppe-Seyler have shown that an active digestive fluid can be prepared from the stomachs of animals in a state of fever. Much of the inability to take food in fever is due to the partial or complete arrest of the secretion of saliva and the consequent dryness of the mouth. I have seen a patient's general condition improved by keeping his lips well smeared with vaseline

and his mouth frequently moistened by teaspoonful doses of cold water. We should be careful to give an adequate amount of water throughout the disease, and, of course, the desire of patients is, in some conditions, wholly unsafe as a guide in reference to the quantity.

Experience teaches that our main reliance during the pyretic period must be upon milk, and we know that an adult patient will usually do fairly well if he is able to retain and assimilate about two quarts of it a day. Too much reliance cannot be placed upon the stimulating effects of the salts and extractive matters of meat-broths, as seen in their occasional administration. Their effects are of value upon the heart and central nervous system, as are also, in some cases, coffee, tea, and barley-water; but we must look to milk, peptonized or not, as our chief or only food. Rectal alimentation must occasionally be resorted to if the stomach prove irritable, but it must be our constant endeavor to avoid this complication by administering the food in small quantities, and not oftener than once in two or three hours.

As to the use of spirits, we find the teaching of writers widely different. My own plan is to administer it earlier in the disease only to drunkards or those always habituated to it in large amounts. My belief is that many cases never need alcohol at all; but that a majority are benefited by it in the latter part of the second and third weeks, and often later. It seems to me that the tendency in New York is to begin the administration of alcohol too early, and to measure its amount rather by the actual quantity given than by the effect produced. The pulse and tongue, and the nervous symptoms should be our guides, and of these chiefly the pulse. If the heart's action become feeble and remain so, alcohol is indicated, and the amount to be given can only be measured by the effect produced. In some cases a few ounces of whiskey, in others nearly a quart in the twenty-four hours may be required. Digitalis is often of use under these circumstances.

As the disease subsides, we are compelled to determine exactly when a return to solid food may be allowed; and to ascertain how to answer this question, we must ask ourselves another, namely, What dangers do we encounter by administering solid food during the fever and immediately after its cessation? This depends much upon the character of the food employed. We have been accustomed to hear that an early return to solid food is liable to produce a relapse; and this has been taken up and repeated by writer after writer, until at present many of us accept it without question. So far as I can learn, there is no clinical evidence in support of such a view. The statistics of a recent epidemic in London, as shown by the cases treated at St. Bartholomew's Hospital, bear strong testimony against this view.

There can be no question that solid food, passing undigested over the ulcers before they have lost their sloughs and begun to granulate, has produced dangerous complications, such as perforation and hemorrhage; but after the base of the ulceration is covered by granulations, even this danger is removed. I am well aware of the fact that there are no signs upon which we can rely to indicate the depth, size, or general condition of the ulcers. In view of all these possibilities, however, can there be any objection to allowing a little meat or egg or other food which will be digested in the stomach as soon as the fever has subsided and the gastric juice has again become capable of performing its function? I think not; and for some years it has been my practice to allow small quantities of finely divided meat—chiefly beef—as soon as the temperature has become normal. Thus far I have seen no harm result, and I think, on the contrary, that convalescence has been thus accelerated, and the patient's comfort promoted.

In selecting the solid food to be first administered to a convalescent from typhoid fever, one should of course select, as I have already suggested, a food which can be digested in the stomach. Whether the stomach is capable of digestion or not, the patient's desire for food and his general condition must help us to determine; but what possible harm can come to a granulating ulcer in the intestine by administering beef in small quantities to a patient whose pylorus it is not going to pass?

Let us pass for a few moments to the consideration of the fever as a symptom. As a rule, we clinicians are prone to disregard the evil effects of pro-

longed high temperature upon the various organs and tissues of the body, and thus to underestimate the importance of interfering with this symptom, even though we may be quite unable to cope with its cause. Observation at post-mortem examinations teaches us that extensive and serious parenchymatous changes occur throughout the body as a result of the febrile process, either a long-continued fever which has not necessarily been very high, or a fever of short duration but of high grade. It is my belief, founded on numerous post-mortem examinations, that the patient never reaches the end of the third week of an average typhoid fever without the muscular wall of his heart having undergone in places a granulo-fatty change. We find the muscular fibres in many situations in the organ so filled with granular material that the transverse striæ are obscured altogether, and in some cases minute drops of fat are distinctly visible. A similar change under similar circumstances is frequently seen in the glandular cells of the pancreas, salivary glands, liver, kidneys, gastric tubules, and the voluntary muscular fibre. Another change in the voluntary muscles, known as the waxy or vitreous change, was first described by Zenker. In connection with this subject, Cayley observes as follows:

"It can hardly be doubted that the result of a large number, if not the majority, of fatal cases of typhoid fever is due to these changes."

Max Schultze has demonstrated, under the microscope, the injurious effects of high temperature upon living cells.

Lauder Brunton, in his valuable lectures on pharmacology and therapeutics, says: "Now we clearly see that, whatever may have led to the increased tissue decomposition and combustion in the first instance, the high temperature itself is a cause of mischief, and must be reduced."

Before proceeding to advocate the adoption of the antipyretic method, Dr. Peabody gave statistics of results of expectant treatment, from the London fever hospital and principal general hospitals in London during the ten or twelve years prior to 1880, which gave a rate of mortality of 12.2 to 17.8. Generally in principal continental hospitals mortality varied from 16 per cent. to 25 per cent. The English Army gives these results for six years ending 1877: Home service, 24.0; Foreign service, 40.7. English Navy for the six years ending 1878, 25.5 per cent.

Jaccoud recounted, last year, at the Academy of Medicine in Paris, that he had collected 80,140 cases treated in Europe on the expectant plan, with a mortality of 19.23 per cent.

A glance at the statistics of our own army is instructive in this respect. I have taken the following facts from the *Medical and Surgical History of the Rebellion*, which gives a total for these five years in our white troops of 75,368 cases of typhoid fever, with 27,056 deaths, this being a mortality of 35.9 per cent.

During the years 1864, '65, and '66, among our negro troops there were 4,094 cases, with 2,280 deaths, this being a mortality of 55.6 per cent.

We have thus a most painful showing from all parts of the world, the worst record of all coming from our own army.

It must be borne in mind that the lower mortality in many of the London hospitals is to be explained by the introduction into many of them of a modified form of the antipyretic treatment, a faint semblance of which exists in some of our own hospitals.

And now, let me ask, Have we reason to be satisfied with the expectant treatment of typhoid fever? Is the mortality, as shown in the figures taken from the books of our own hospitals (See Dr. Delafield's paper in the *EPILOGUE* for March, 1884), low enough to warrant us in being contented with the results of the various modifications of the expectant treatment in use here? Have we possibly among us any who think, with Skoda, that it makes no difference whether typhoid fever patients be treated or not? Before we endeavor, by discussion, to elicit answers to these questions, let me offer a few facts and figures from other sources, giving the results of antipyretic treatment.

Dr. Peabody then gives a *résumé* of the antipyretic treatment by the use of cold baths, as employed in different cities in Europe, and also in this country,

and reaches the conclusion that it is the most successful method that can be adopted. He does not recommend cold sponging, and has less confidence in the use of Leiter's coil. He is not an advocate of the use of antipyretic drugs, in doses sufficient to reduce the temperature.

COLD-BATH TREATMENT OF TYPHOID FEVER.

The vexed question of the cold-bath treatment in typhoid fever was last month brought up for discussion before the Medical Society of London. At the Society's regular meeting on February 18th, Dr. Sidney Coupland read an elaborate paper in which he favored this plan of treatment, Dr. Bristowe, in a short critical paper, took grounds against it, and Dr. William Cayley reopened the adjourned discussion on February 25th with some extended remarks, which, with the comments that followed, brought to light an array of facts based chiefly upon statistical data which would seem to place beyond doubt the curative power of the bath in typhoid fever.

In the *British Medical Journal* of February 23d and March 1st the leading points of discussion may be found. From this journal's abstract of Dr. Cayley's remarks we quote as follows:

"It had been argued that, in estimating the value of any particular modes of treatment, statistics could not be relied on, but that we must be guided solely by individual clinical observation. Now the canons by which statistics must be tested were perfectly simple, and it was not generally very difficult to see whether the statistics in any severe case did or did not conform to them. First of all, a sufficient number of instances spread over a sufficiently long time must be collected so as to exclude accidental sources of error; second, only like instances must be compared. If statistics did not confirm to these canons they were of little value; if they did, then their evidence was conclusive.

With regard to the antipyretic treatment of fever, there had now been collected a body of statistics which completely fulfilled these requirements.

Thus, if so large a hospital as the Charité at Berlin were taken, which admitted many cases of typhoid—and this hospital might be taken, because it was not open to the objection that its physicians were prejudiced enthusiasts in the antipyretic cause—and the rate of mortality over a period of many years before the introduction of this treatment were compared with that over a period of many years after the introduction, statistics were obtained which conformed to the canons, inasmuch as there were a large number of cases spread over a long time and a comparison of exactly similar instances.

During the twenty years, 1848-67, 2,228 cases of typhoid fever were admitted into the Charité; of these, 405 died, a rate of mortality of 18 per cent., which corresponded pretty closely with the mortality of the general hospitals of London. The antipyretic treatment was then introduced, and during the nine years, 1868-76, 2,086 cases were admitted, and 267 died, giving a rate of 13 per cent. If 64 cases were excluded which were admitted in a condition not admitting of the treatment, the death-rate would be 10.5 per cent.

A still more conclusive instance was afforded by the Prussian army. During the seven years from 1868 to 1874, the rate of mortality from typhoid fever was 15 per cent., an extremely favorable rate, which spoke much for the efficiency of the medical department. The antipyretic treatment, chiefly in the form of cold bathing, was then introduced, and during the next seven years (1875 to 1881) the rate was 9.7 per cent. Here a comparison of exactly similar instances were made. The men in the two cases were of the same age, of the same social position, fed in the same manner, clothed in the same manner, lodged in the same manner, and, in all respects, placed under the same conditions; the only difference being in the mode of treatment. But, as German statistics on this question were perhaps regarded as *suspect*, an appeal might be made to French authorities, and here Professor Jaccoud might be cited. Perhaps his authority would have more weight with many,

inasmuch as he was decidedly opposed to Brandt's method, but without having given it a fair trial. He stated, in the debate on this subject at the Academy of Medicine last year, that, after a careful collection of more than 80,000 cases, he found that the average rate of mortality in typhoid fever in France, under the old methods of treatment, was about 19 per cent.; whereas under the new method it was below 11 per cent. It was now necessary to inquire what was this new method which had effected this great reduction in the rate of mortality.

It need hardly be said that the antipyretic treatment was not bound up with the system of cold bathing, of any particular method of reducing temperature. Cold bathing was, perhaps, the most efficient mode, and the one most generally applicable, and which, on the whole, caused least annoyance to the patient; but a large number of cases were not suitable for it, and for these other means must be adopted. Dr. Cayley stated that, in his opinion, keeping the temperature down by the abstraction of heat gave much better results than the repeated administration of large doses of the antipyretic drugs, as these powerful remedies could not be given in these large and frequently repeated doses without incurring the risk of seriously disturbing important functions. In his opinion, therefore, they should be regarded as adjuncts to the other antipyretic methods, and not as substitutes.

The principal conclusions: First, that this mode of treatment fulfilled the physiological indications; that by keeping down the temperature, the febrile metabolism of the tissues, and the accumulation in the blood of the products of this metabolism—and to this Dr. Murchison attributed most of the symptoms of the typhoid state—were much diminished. The granular infiltrations and softening of the central nervous system, of the heart, of the liver, of the kidneys, of the voluntary muscles, was to a great extent prevented; and, by the stimulating effect of the treatment on the vaso-motor system, that want of tone and general relaxation of the arteries which was so marked a feature of the disease was counteracted. Many of the opponents of the treatment admitted these conclusions, though, by so doing, they gave up more than half the field of battle. It was not, of course, necessary to assume that the high temperature was the only or even the chief injurious agent in typhoid fever. It was enough to say that it was an important factor, which could not be denied; and it was one which it lay in our power to counteract.

Secondly, they maintained that, where the treatment was efficiently applied, it produced a marked alleviation of the symptoms. And this, too, was acknowledged by many of the opponents, though by so doing they gave up the greater part of the remainder of the ground. Where the temperature was kept steadily down, the so-called typhoid symptoms were seldom seen. The persistent headache, the febrile oppression, the sleeplessness, the muttering delirium, the stupor, the dry glazed tongue, the muscular twitchings, the bedsores, were either prevented or alleviated; and, to quote the words of Dr. Austin Flint, who was here indorsing a statement of Liebermeister, the old picture of the typhoid case was no longer to be seen, and the disease had lost half its terrors. Dr. Austin Flint, it was hardly necessary to say, was no enthusiast blinded by his eagerness for this method.

Thirdly, it was maintained that, by this method of treatment, the complications of typhoid fever were neither rendered more frequent nor more severe. With regard to the pulmonary complications, the hypostatic congestion and pneumonia, there could not be a doubt but that they were rendered much less frequent. With regard to the intestinal complications, hemorrhage and perforation, Dr. Brandt asserted that, when the treatment was applied from the very first, they, too, were much diminished, and it was only reasonable to suppose that, as the tissues were less degenerated and softened, they would be more capable of resisting the sloughing and ulcerative processes. But when the treatment was deferred till after the elapse of the first few days, it did not appear to exercise much influence, although there was no evidence that these complications were rendered more frequent.

Lastly, it was maintained, and on evidence that could not, he thought, be overthrown, that by this method the rate of mortality was greatly diminished: so that, when arguments were brought against it, on theoretical grounds, by

those who had never tried it, or on practical grounds by those who had only given it an imperfect trial, we might simply reply, with Prof. Jaccoud, "Nevertheless, while the rate of mortality in typhoid fever under the old method of treatment is about 19 per cent., under the antipyretic mode it is under 11 per cent."

Dr. Cayley lays great stress upon the importance of beginning treatment early in every case, since the submitting of patients to the bath late in the course of the disease, after continued high temperature has been suffered to do its destructive work upon the tissues, is useless, and has probably done much to bring the treatment into disrepute. Dr. Coupland also gives great prominence to this point. He says:

"The treatment must be commenced as early as possible and continued, without intermission, so long as pyrexia lasts, *in spite of pulmonary complication*. If there be any signs of grave intestinal lesion then the compress or sponging is to be preferred to bathing. Hemorrhage, peritonitis, extreme degrees of debility (especially in old subjects) and cardiac disease contraindicate the bath; but the principle of the method should be carried out, if not by this, then by other measures."

Dr. Gilbert Smith practices sponging when the temperature is not above 102° F., when it reaches 103° bathing is to be resorted to. He suggests that a cold air bath might be a good substitute for the cold water bath.

Several of the speakers argued strongly in support of the views of Drs. Coupland and Cayley, while others denounced the cold bath as doubtful at best, often dangerous, and in many cases useless; but the weight of testimony would seem to favor this form of treatment.

The cold-water treatment of febrile affections is probably more than a hundred years old, and though at various periods (since the days of Currie) it has been used and abandoned, it may be said to have claimed the serious attention of the regular profession only since fifteen or twenty years ago, when it was revived and put to the test by E. Brandt and Jürgensen.

While in hospitals, where the patients can be properly handled and the bath made to do its perfect work, the treatment has given excellent results, in private practice it has proved a disappointment to most physicians, and we remember to have heard of more than one death in this region, during the first year of its trial, which was attributed to the frequent bathing. Sponging is still held in high esteem, but the bath is seldom used, it being generally regarded as too unwieldy for exhibition in private practice.

Still, if the facts and figures of the above-quoted statistics are not misleading, it would seem, in view of the present high death-rate of typhoid fever, to be the duty of the practitioner to give it further trial.—*Ed. Louisville Med. News, March 29, 1884.*

ETIOLOGY OF TYPHOID FEVER.

By EDWARD G. JANEWAY, M. D., Prof. of Nervous Diseases and of Clin. Med., etc., in Bellevue Hospital Med. Coll., N. Y.

In a paper published in the *Medical News*, Feb. 23, 1884, Dr. Janeway reached the following conclusions with reference to the aetiology of typhoid fever:—

- (1.) That it is in all probability due to a bacillus.
- (2.) That this virus is certainly contained in the discharges from the bowels.
- (3.) That it gains entrance to the system through the air coming from places into which the discharges of other typhoid-fever patients have been deposited; or through water contaminated by a similar process, or through milk diluted with contaminated water; or perhaps vitiated by contaminated air.
- (4.) That there are instances which point to the probability that the germs which produce typhoid fever may develop in a suitable soil, but not have been derived from a preëxisting case of the disease.
- (5.) That it is not necessary to evoke the aid of the rise and fall of the ground water to explain the disease; though a low state of the ground

water, by favoring an increase of the impurities in a well or water-supply, may favor the spread of the disease, as may also a sudden severe rain after a drought, by washing impurities, including the germ of the disease, into the drinking water.

(6.) That the failure of the disease to spread when prompt and thorough disinfection of the excreta has been performed, as well as of clothing soiled by such discharges, makes it extremely doubtful whether the disease is communicated by the respiration, perspiration, etc.

(7.) The writer has had no opportunity to study outbreaks of fever resembling typhoid, such as have occasionally been met with abroad, due to the eating of diseased meat.

Accompanying the paper were tables which gave in detail the number of deaths which had been ascribed in New York to each of a number of febrile diseases since 1852. In each of the last four years more deaths were ascribed to the malarial class of diseases than to typhoid fever; and this he thought was due to error in diagnosis, since in Bellevue Hospital 653 cases of malarial fever had been treated during the last three years, with a mortality of only three, or one death for each year. Among the fevers referred to, from 130 to 154 deaths in each year were reported as due to the hybrid, typho-malarial fever, and, as far as New York City was concerned, the writer regretted the employment of this term. It had led to confusion, and had also prevented those proper measures from being employed which would prevent the spread of typhoid fever and lead to an investigation of its causes. He had long insisted that the evidence of post-mortem examinations was opposed to the use of this term here, and he had known cases which clinically seemed, and were asserted to be, typically of this combination, which only presented the ordinary anatomical conditions of typhoid fever. The concluding part of the paper was devoted to a consideration of the relationship of age to the development of typhoid fever, and of the question whether the disease were increasing or not.

The writer, from a long experience in hospital practice could assert that true intermittent and remittent fevers proving fatal are not indigenous; they occur mostly in people coming from sub-tropical or tropical climates.

CONTINUED FEVERS.

By M. L. BOAS, M. D., Brownstown, Ind.

The following is from a paper published in the *Western Med. Reporter*, Feb., 1884:—In presenting the society (Jackson Co. Med. So.) with a brief paper on "continued" fevers, it will be my main purpose to give you the views gathered from my own limited observation and study of these diseases as they occur in this vicinity, knowing full well that in doing so I will have to disagree with some of the members present.

A few years since a fever occurring among the Union troops was observed by Dr. Woodward, Surgeon General of the United States Army, and by him named "typho-malarial fever," from its resemblance to both typhoid and malarial fevers.

The word "typho-malarial" seemed to be the word and captivated the profession like magic. It is a misnomer and should be abolished from our medical nomenclature. Dr. Woodward before his death retracted his idea of its existence as a morbid entity, and admitted that the morbid anatomy of the so-called typho-malarial fever, was the same as that of *typhoid* fever.

Malarial fever running on for some time, will assume some of the symptoms of typhoid fever, and hence is given the name typho-malarial, and many years will be required to eradicate the idea from the minds of many of our best practitioners, of the existence of such a fever.

In malarious regions many practitioners entertain the idea that typhoid fever does not occur with them. In the main that is correct. The presence of the one usually means the absence of the other, and so does the disappearance of the malarial fever that was once so rife in this country, mean the appearance of typhoid fever.

Let me give a recent example of this impression: The history of the case was, that about three weeks previous the little patient began to have slight diarrhœa, anorexia, indisposition to play as usual, and a little fever every day.

Her temperature was $102\frac{1}{10}^{\circ}$ F.; pulse 180, dry skin, tongue and lips dry and covered with sordes. Bowels somewhat tympanitic and tender, with diarrhœa which had existed throughout the disease, some ataxic symptoms, mind dull, patient taking little or no interest in surrounding events. No rose colored spots were observed at that time. I made a diagnosis of typhoid fever. The doctor with me rather dissented, as he entertained the opinion that typhoid fever never occurred in this country, but cases running on for some time were simply badly treated cases of malarial fever. After several weeks the child recovered.

This is by no means an exceptionable circumstance, but is mentioned here to show how mistaken some of our best practitioners may be in this country who rely too much on *typical* cases.

Whether the lenticular eruption occurred at any time, I am unable to say.

After all, this behavior of typhoid fever is the same as the behavior of every other infectious disease, and as they occur in different places and at different times they present themselves with different degrees of development, both with regard to lesions and symptoms.

Typhoid fever as it has existed in New York during the last few years, has not been strongly developed as regards the morbid anatomy; but when the lesions are compared with those developed in other epidemics, it is easy to see that they are the same in kind, although they may differ very much in degrees. The same is true of the symptoms. But if this is true of typhoid fever, it is equally true of many other infectious diseases, and Liebermeister, the author to whom Dr. Loomis had referred, was a writer who had misled a great many people.

The article written by him and published in "Ziemssens Cyclopedia" Dr. Delafeld translated for the American edition and at the time, became convinced, that it was evidently made up of descriptions more definite, and more decided than any descriptions can possibly be which are taken from nature.

The author has evidently suppressed the truth to some extent in his desire to be positive, decisive and clear.

Bartholow says that when typhoid fever occurs in a person saturated with malaria the fever is modified somewhat in its course, has more of the remittent type, and is apt to be protracted owing to the occurrence of intermittents during convalescence.

What is the cause of typhoid fever? Why may it not occur here?

It is a self limited disease and is supposed to be caused by a germ.

As to the origin of this germ we as yet know but little. The commission appointed by the Academy of Medicine, to consider the subject of typhoid fever, particularly the recent epidemic of Paris, refers the epidemic in question to bad drainage and filth.

What the specific germ of typhoid fever is awaits to be told by some ardent microscopist. I have seen it occur in isolated spots among robust young farmers. Such farms may be models of neatness, and apparently perfectly hygienic, the most careful search failing to reveal any cause for the disease.

It has been proven that typhoid fever, however it may have been produced originally, is sometimes propagated from person to person by being in close propinquity, or by actual contact with intestinal discharges, and sometimes a *materies morbi* seemingly conveyed from the sick to the healthy at a distance, producing exactly the same symptoms as in the initial case.

But in this event, or in a great majority of such instances at least, the sanitary surroundings of those who receive the disease, are very faulty.

It is also proved (as far as a negative proposition can be proved) a *materies morbi* of unknown nature, be it fungoid or be it chemical in composition, often originates in drains, sewers, privies, or on damp or foul surfaces, or in earth or water saturated with sewerage matters, and that this *materies* gives origin to typhoid fever without the action of any specific germ derived from the body of a previous patient.

These fevers are occurring in this locality, with a duration of twenty or thirty days or longer, come on insidiously. Some have a typical change of temperature, some have not, some resist the action of quinia and terminate by lysis.

Malarial fevers make their onslaught suddenly, begin with a high temperature and violent symptoms within the first twenty-four hours, have very marked remissions, are amenable to the action of quinia, and terminate by crisis.

Physicians are probably often reluctant in making a diagnosis during the development of typhoid fever, for fear of criticism; and while the treatment may be proper, carry it through as a continued fever with typhoid symptoms. and anxious to occupy a middle ground, which in medicine is correct oftener than otherwise, finally give it the name of "typho-malarial."

In this case there is no middle ground to occupy, either it is, or it is not.

I am aware that the charlatans of the country have more typhoid fever in proportion to their practice than any one else! Every case they have is typhoid, when really the typhoid condition—if there be any—is the want of proper treatment of some very trivial malady, as stated by my worthy colleague mentioned above.

But this should not bring the idea of its occurrence here into ridicule; for this brings up the old moral question of whether I must forego the use of a thing because somebody else abuses it.

I want to put myself on record right here, as saying that in my opinion, within ten years, malarial fever will have abandoned this locality as its favored habitant, and in its stead will come typhoid fever, as the prevailing epidemic fever; that it will prevail here with as much frequency and perhaps as much violence, as it does now in the higher altitudes of this and many other states. There will of course in some localities, probably along the borders of our streams, remain some malaria. I hope to see physicians when they meet with cases of malarial fever prescribe large doses of quinia in the start, the protracted cases of purely malarial fever will then I think be very few and the term typho-malarial soon disappear.

As to the therapeutics of typhoid fever it is even more varied than the opinions concerning its entity.

TYPHOID FEVER.

By J. H. VAN EMAN, M. D., Kansas City, Mo.

The following is taken from a paper published in *The Kansas City Med. Record*, Feb., 1884:—Tubercular disease exists in Kansas City and the surrounding country to a less extent than in many other communities. In the hottest portions of the summer season entero-colitis prevails, particularly among children. We also have during the autumn, and sometimes during the winter months, more or less fever of a clearly malarial type, in which intense gastric disturbance is very marked. This type of fever is amenable to quinine or other antiperiodic medication. This type of fever mostly prevails after wet and hot summers, when the lower grounds along streams are covered by the overflow of water once or oftener during the season. The mortality is small; and in types of a remittent or even continued form, unless great care is exercised, relapses, in the form of an ordinary ague, are of very frequent occurrence. In other years, noted for the small rain-fall and protracted drouths, when ordinary agues are rare, we have a type of fever of a *decidedly continued form*, running a protracted course of from three to six weeks, and even longer. These fevers differ in their beginning, course, clinical history, general symptoms, and anatomical lesions, from what is known everywhere as malarial fever, in any of its forms; as they also do in the fact that their treatment by any of the salts of cinchona, arsenic, or other drugs known for their marked effect in breaking up malarial fevers, is utterly useless in cutting short this fever—many of the cases doing quite as well under an expectant treatment in meeting the indications as they arise, and thus, in the language of Cullen, "obviating the tendency to death." The questions that confront us in the diagnosis and treatment of these cases, which are commonly called

typho-malarial fever, are—have we a severe form of malarial fever in which antiperiodics have no effect, either from an intense hepatic engorgement, or from a catarrhal condition of the intestinal mucous membrane, preventing the absorption of our medicines? or, what amounts to the same thing—they are hurried so rapidly through the alimentary canal that they do not enter the circulation at all, and by their irritation, add fuel to the flame of an already existing gastro-entero colic inflammation? or whether we have a true typhoid fever, modified to a greater or less extent by climatic and endemic conditions. Those who deny the existence of typhoid fever in our midst, excepting, perhaps, in very rare cases, where the patient is a new arrival, base their opinion on the ground that typhoid fever can only be produced by the entrance into the human organism of a specific germ, itself the product of another germ, and so on to infinity. This doctrine is by no means universally accepted. I have strong reasons for believing that a disease simulating, in its whole history, typhoid fever, and giving after death anatomical lesions which the most accomplished pathologist would not be able to distinguish from the lesions found in the typhoid fevers of New York, London, Paris, Berlin, or Basle—can arise in Kansas City, western Missouri, or Kansas, which cannot by any possibility be ascribed to an imported germ. In other words, I believe that this poison—known by its effects on the human body, about whose laws of production, growth, physical appearances, and origin we know absolutely nothing—can under favoring condition be produced *de novo*. That the specificity exists not in the germ, but in the ferment, or whatever else gives rise to it. Briefly stated, then, I claim that a very large majority of our continued autumnal fevers are just as truly typhoid fevers as any that occur in any of the above-mentioned cities. In support of this view I submit the following statement:—

1st. The onset of the disease: Of this we have two prevailing types. (a) The attack begins suddenly—usually with a chill—the temperature rising by the end of the second day, or even earlier, to $103\frac{1}{2}^{\circ}$ or $104\frac{1}{2}^{\circ}$ F. With not very decided remissions this condition obtains for about a week. Then under active antiperiodic treatment the fever shows signs of giving away, but in spite of this apparent amendment the fever takes on a continued type, never rising quite as high, however, as in the first six or eight days; diarrhœa, tympanites, sordes, subsultus, delirium and other grave ataxic symptoms arise, and the disease runs a protracted course of about three weeks, ending in death or a tardy convalescence. (b) The patient for about a week is restless at night, gradually loses strength, dry mouth, bad dreams, loose bowels, headache, occasionally epistaxis; at last takes his bed, is sick from three to four weeks with very many of the clinical features of a typical typhoid, not excepting in fully one-third of the cases the pathognomonic rose-colored spots; and nine-tenths of the cases have a more or less troublesome diarrhœa.

2d. Course: Protracted fever; cannot be broken up.

3d. Under clinical history I will only speak of such points as do not belong to malarial fever and are found in this fever—delirium and coma-vigil, dull flush of the face, incoherence of thought, sordes epistaxis, dry, glazed, or cracked tongue, bronchial rales and slight cough, tympanites, rose-colored spots, iliac tenderness and gurgling, loose bowels with ochery stools, hemorrhage from the bowels; and lastly, perforation, peritonitis and death. I do not wish to be understood as claiming that any one case will have all of the above symptoms, but that each case will have enough of them to establish the diagnosis. Furthermore, the age of the patients whom I have treated for this type of fever have ranged from fifteen to thirty years, corresponding in this point with the authorities.

4th. Anatomical lesions: In the autopses of six cases made by me in the last four years upon the bodies of young men who died from this fever, I found the lesions of Peyer's patches and of the solitary glands admitted by all pathologists to belong to typhoid fever, and to typhoid fever only. Three of the six died from peritonitis following perforation.

In a very large number of cases that have come under my observation in the last fifteen years, both in hospital and private practice, I am thoroughly satisfied that—judged by the clinical history, course, duration, and termina-

tion—I had in them the same kind of fever as in the six upon which I made post-mortems. The lesson intended to be taught in this paper is—for the profession to stop calling every fever malarial or even typho-malarial, and as a result of this diagnosis, to administer quinine *ad infinitum*; but rather to study each case, make carefully a differential diagnosis, eliminate the malarial factor, if any there be, by prompt and judicious treatment, and then treat the case on its merits by meeting the emergencies as they arise—above all things sustaining the vital forces.

In the discussion which followed, Drs. Lester and Porter were confident that typhoid fever did not occur in Kansas City, while Drs. Block, Bogie, Fulton and Sloan were convinced that true typhoid did occur in that locality.

HÆMORRHAGIC MALARIAL FEVER.

By J. H. McCaleb, M. D., of Pointe Coupee, La.

The following is from the *N. O. Med. and Surg. Jour.*, March, 1884:—The increasing prevalence of this very fatal form of malarial disease throughout the South, and to no small extent the alluvial districts of Louisiana, is indeed alarming; and the theories to be gleaned from the current literature of to-day on the pathology, and especially the treatment are calculated to launch the inexperienced practitioner at sea when, for the first time, he confronts this most serious form of malarial trouble.

The disease occurs in individuals who have been long suffering from malaria cachexia. The paroxysm is ushered in by a severe rigor, followed by fever of more or less elevation of temperature, excessive nausea and vomiting, great thirst, and the skin and the conjunctivæ in a few moments, from the onset of the paroxysm become of a bright yellow hue. The entire nervous system is in a condition of extreme irritability, and the jactitation and suffering, in the great majority of cases, is intense, and if not speedily relieved eventually ends in prostration and death. The so-called hemorrhage occurs from the stomach, intestines, or kidneys, but the great majority of cases from the kidneys alone, the urine being of an intense bloody appearance. If the fever is of the intermittent or remittent type, the hemorrhage partakes of the same character. No lesions of the kidney, strange to say, has been discoverable by post-mortem.

The mind, in most of the cases that have fallen under my observation, generally has been clear throughout. Vomiting and thirst are almost continuous, the matter vomited sometimes having a blueish appearance, which is said to contain bacteria in abundance.

That invaluable little instrument, the hypodermic syringe, is the only weapon with which the physician can hope to combat this most serious malady with any degree of accuracy and satisfaction.

The logical indications for the treatment of this disease are clearly: (1) To alleviate the excessive gastric and nervous irritability; (2) To eliminate effete matters from the system, correct morbid secretion, and relieve congestion; (3) To neutralize the poison in the blood; (4) To build up the system and obviate a tendency to asthenia.

The hypodermic administration of the sulphate of morphia in this disease is indispensable. Its administration in the early stages might be preceded by a large quantity of alkaline drink, given warm, to induce free emesis. After free emesis induced in this way, a hypodermic injection of from one-sixth to one-third of a grain of the sulphate of morphia never has failed, in the writer's experience, to afford immediate relief from the excessive jactitation and vomiting, placing the patient in a most comfortable condition.

The hemorrhage of this fever is purely the local expression of a constitutional affection. The hematuria is but an effort of the kidneys to eliminate a *materies morbi* from the blood, and, if the little that is absolutely known of the pathology of this disease be correct, diuretics, as advised by some, are clearly contraindicated. The only channel to which we can appeal with reliance for the elimination of effete matters is the intestinal tract, and calomel is the cathartic that can be employed with certainty for that purpose. Given

in large doses, frequently repeated, five or ten grains every two hours, there is no probability of ever producing its constitutional effects. If its cathartic effects are not sufficiently prompt, mild salines should be administered frequently in small doses, or large saline enemata might be resorted to. No fear need be apprehended from hypercatharsis, the morphia subcutaneously obviates such tendency. A fly blister applied over stomach and liver does much good.

The administration of quinia should be commenced as soon as possible. About one or two hours after the second dose of calomel has been given, and the nervous system has been calmed by morphia, five or ten grains may be given in capsule every two or three hours, until twenty-five or thirty grains have been taken; if vomiting should become too frequent to allow time for its absorption, it should be given hypodermically. Twenty-five grains of the sulphate of quinia are added slowly to a concentrated solution of tartaric acid (f 3 j) and the quinia is completely dissolved. Ten minims should be given every two or three hours. The hypodermic needle being driven deep into the muscle, there is but the slightest possibility of an abscess resulting. Under all circumstances the patient should be kept as quiet as possible, and should he become restless, small hypodermic injections of morphia give instant relief.

This is a purely a malarial disease, and *the specific* for all forms of malarial toxæmia is the only remedy that can be rationally employed as a curative agent, but the writer has witnessed the most *disastrous consequences* resulting where the administration of quinia has not been attended with the precautions to obviate its bad effects, which has been the endeavor of this article to elucidate.

After the stomach is able to receive food the tinct. ferri chloridi, in ten to thirty drop doses, considerably diluted, and given after eating three or four times a day, rapidly restores strength and color. The tinct. cinchonæ comp. is also highly indicated, given before eating and continued for several days during convalescence.

Nausea is about the most lingering of all bad symptoms, but as the patient regains appetite convalescence becomes rapid.

DELIRIUM TREMENS, TREATED WITH TINCTURE OF DIGITALIS.

By HENRY HUN, M. D., Albany.

The following is from the *Medical Annals*, Feb., 1884:—During the past twenty years the giving of digitalis in large doses has been recognized as one of the standard methods of treatment of delirium tremens, and, although within the last ten years this form of treatment has been replaced, rightly, I think, by a combination of hydrate of chloral and bromide of potassium, yet I would like to present to the society a report of six cases of delirium tremens treated by half-ounce doses of the tincture of digitalis.

It has long been a matter of dispute whether delirium tremens is due to the direct poisonous action of the alcohol or whether it is due to the sudden stopping of drinking, and hence to the sudden withdrawal from the system of its accustomed stimulant. There can be no doubt that in many cases delirium tremens is caused directly by drink. On the other hand, in a number of cases it might seem as though the delirium tremens did not appear until the drink was withdrawn and then appeared in consequence of this withdrawal. The opinion that delirium tremens is caused directly by the drink and not by its withdrawal has of late years gained more and more ground, and at the present time I think the great majority of those who have had much experience in the treatment of delirium tremens incline to this view and hence believe in stopping all alcoholic drinks immediately, instead of gradually diminishing the quantity of them, as has been advocated by those who believe that the withdrawal of the alcohol is the cause of the disease.

In the form of delirium tremens which is the result of a short but excessive abuse of alcoholic drinks and which is caused by the direct poisonous action of the alcohol, the first thing to be done in the way of treatment is to

prevent any more alcohol from entering into the system, and to eliminate as soon as possible the alcohol already in the system. By means of some purgative, such as calomel, we may get rid of any alcohol which is in the alimentary canal and liver, and by means of a diuretic we can increase the action of the kidneys and favor the sweating which nature of her own accord usually produces in such cases. Besides seeking to eliminate the alcohol we must also try to keep up the strength of the patient.

Such is the general treatment of delirium tremens—food, rest, a diuretic and moderate purgation, with entire abstinence from alcohol; and this general treatment is by far the most important of any. On such general treatment the vast majority of cases will recover; for it must not be forgotten that delirium tremens is a self-limited disease of very short duration. As long ago as 1831, Dr. Ware, of Boston, showed that this disease might safely be left to itself to run its course and that it terminated in recovery in from sixty to seventy-two hours. It is rarely possible, however, to employ this expectant form of treatment.

On this account it seems desirable to find some drug which will allay the excited action both of the brain and heart, and produce sleep, so that the patient may not exhaust himself completely before the disease has run its course and the greater part of the alcohol has been eliminated.

In most cases of delirium tremens it is very difficult to produce sleep with opium. It is safer to give morphia hypodermically than opium by mouth, because it is impossible to say how rapidly absorption takes place from the stomach in cases of delirium tremens. The treatment by opium was almost universal until 1860.

In 1860, Mr. Jones, of Jersey, recommended the use of tincture of digitalis in large doses in delirium tremens, and cited seventy-seven case of cure by this means and only one death. This method of treatment was soon very extensively tried, and the dose was even increased in some cases. The method of treatment by tincture of digitalis proved itself to be superior to that by large doses of opium, and also to cayenne pepper and tartar emetic two other methods introduced at about the same time.

About 1870 hydrate of chloral was tried in delirium tremens, the bromide of potassium having been used with much success a few years before. In hydrate of chloral we have, I believe, the best agent for producing a calm and refreshing sleep in cases of delirium tremens, and thus hastening recovery. At the same time, the digitalis treatment is not without interest, for I think that there are some cases of great depression, with a rapid, feeble pulse, in which the digitalis is, perhaps, of greater service than the chloral.

DELIRIUM TREMENS.

By JNO. BEN. STONEHOUSE, M. D., Albany, N. Y.

The following is from the *Medical Annals*, Feb., 1884:—

My efforts toward the treatment of delirium tremens are mainly directed to the administration of food. I give no alcohol, principally because it interferes with digestion. Where the bowels are constipated, as is usually the case, I give one large dose of calomel, or a stimulant enema, if the stomach will not tolerate the powder. A tepid or even cold bath, followed by vigorous friction, repeated as the case demands, is of the greatest value, not only in aiding elimination, but also in quieting the nervous system and producing sleep. But, over and above all other remedies, I rely upon food. If a patient will retain one-fourth to one-half pint of warm milk, with or without the addition of the yolk of an egg, an excellent prognosis of the case can be given, and if he can take and retain mutton chop or other solid food, the battle is gained. Sometimes the application of an ice-bag to the epigastrium is of service in allaying gastric irritability, especially if at the same time small doses of morphia be given hypodermically. No time, however, should be lost in these efforts. Rectal alimentation should be immediately employed. I have used dessicated blood per rectum in three cases with excellent results, and have reason to advise its trial by others. Sleep and recovery

will, in many cases, follow these remedies, but if they do not we must use drugs. Digitalis has in my hands produced very satisfactory results, but, of course, it requires the presence of the physician to administer and watch its effects. In the few cases where digitalis fails I use a combination of morphia and bromide of ammonium or morphia hypodermically. I have an increasing fear of chloral. It is seldom serviceable in a smaller single dose than forty-five grains (Boehm declares forty-six grains to be the largest dose that should be given the average *healthy* adult). Its use is all the more dangerous when the patient cannot be relied upon to call attention to minor ill effects of the drug, thus allowing the sometimes fatal results to be established without warning.

THE BEST TIME FOR ADMINISTERING MEDICINES.

Before or after meals? Such is the question often asked of the doctor, but the answer is not always ready. The *Midland Medical Miscellany* answers it as follows: Medicines that are irritating should be given after meals, when the stomach is full, viz.: the salts of copper, zinc, iron and arsenic, in large doses. Small doses, intended to act on the stomach terminals of the vagi, must be given when the organ is empty. Chemical reasons also have their influence, thus, oxide and nitrate of silver, intended for local action, should appear in the stomach during its period of inactivity, lest, at other times, chemical reactions destroy the special attributes for which these remedies are prescribed. Iodine and the iodides further illustrate this point. Given on an empty stomach they promptly diffuse into the blood, but if digestion is going on, the acids and starch form products of inferior activity, and thus the purpose which they were intended to subserve is defeated. Substances prescribed to have alvinel action on the mucous membrane, or for prompt diffusion unaltered, are preferably given before meals. The condition of the stomach veins after meals is such as to lessen the activity of diffusion of poisons, and hinders their passage through the liver. It follows that active medicaments in doses near the danger-line, are more safely administered after meals.

When shall acids and alkalies be given, before or after meals? First, as to acids. When acids are prescribed with the view to check the excessive formation of the acids of the gastric juice, they may be given before meals—as, by the laws of osmosis, they will determine the glandular flow of the alkaline constituents of the blood. The same reasoning would hold good when the alkaline condition of the blood is in excess; osmosis being favored, the acid would reach the blood more readily. Second, as to alkalies. These may be given just before meals, when the acid forming materials in the blood diffuse into the stomach glands, and after digestion is completed, when the alkalies diffuse directly into the blood, without interference from the contents of the stomach. An alkali taken during the time when the reaction of the stomach juices should be strongly acid, must necessarily hinder, if not arrest, the digestive process for the time being. The metallic salts—notable corrosive sublimate, alcohol, tannin, and some other agents—impair or destroy the ferment, or digestive power, of pepsin. Wine that is intended to act as food, is most beneficial when taken slowly during the course of the meal. The objection as regards the ill-effect of alcohol on pepsin, is not applicable here, except to the stronger spirituous wines in large quantities, for the ordinary medicinal wines do not have sufficient alcoholic strength to injure this ferment. Iron, phosphates, cod-liver oil, malt, and similar agents should, as a rule, go with food through the digestive process, and with the products of digestion enter the blood.—*The Medical Age*, April 25, 1884.

THE FREQUENT REPETITION OF DOSES.

By FRANK WARNER, M. D., Columbus, O.

From the *Cincinnati Lancet and Clinic*, April 26, 1884. The question of the repetition of doses often is of considerable importance to the practitioner of medicine. The therapeutical effects of many drugs is so evanescent, that,

where we wish to procure a continuous effect, we must look to it that sufficient time does not elapse between doses to have allowed the influence of the previous dose to have entirely ceased.

In the night sweats of phthisis, atropia will be found very much more effective administered in small but frequently repeated doses than by a single large dose at bedtime. While, in many cases, the one-sixtieth of a grain of atropia sulphate administered at bedtime is sufficient to control the colliquative nocturnal sweats, yet we occasionally increased (in hospital practice) the dose to one-fortieth of a grain. In these same cases, on other occasions, we tried $\frac{1}{160}$ grain every four hours to much better advantage. Administered in this way the atropia not only relieves the exhaustive sweating, but, also acts very favorably in relieving to a certain extent cough, pain, excessive pulmonic secretion, and seems to exert a somewhat favorable influence over the course of the disease.

In nocturnal incontinence, depending upon a morbid sensibility of the mucous membrane of the bladder, or a paresis of the *sphincter vesicae*, frequently repeated small doses of atropia will relieve the incontinence, when the same medicine would fail if given in a single large dose at bedtime; $\frac{1}{160}$ grain should be given to children five or six times a day.

In several cases we have used small and frequently repeated doses of aloes for the removal of *pin worms*, with complete success, after having failed in a few cases by treating with rectal injections of quassia solution. It would seem that in some cases, which apparently yield to rectal injections, but in the course of a fortnight the troublesome little parasite returns, the worms in the colon were undisturbed and only those in the rectum destroyed. Then, too, by giving only an occasional purge of aloes, the parasite is removed to-day but the eggs clinging to the mucous membrane of the colon or rectum are hatched out to-morrow, and they become just as annoying as ever. If the aloes be administered in the form of tincture, in half-teaspoonful doses every four hours, or a corresponding dose of the solid extract in pill form, and kept up for one week to ten days, and not only the pin worms will be destroyed but the eggs likewise and the annoying affection will be at an end.

We recently treated a case in which the patient had experienced the annoying sensation of a dribbling of urine for half an hour after its passage. The patient was a male, thirty years of age, and a hard working mechanic. Eighteen months previous to his application to us for treatment, he had suffered from an attack of gonorrhœa, which subsided completely after eight weeks' duration. He was always enabled to make a full stream in urinating, and was not required to make his water more frequently than the average person; but, from that time, he always experienced difficulty after urinating in retaining the few drops that were inclined to pass. This was more especially the case when the patient was actively engaged at his duties. A careful examination of the urethra with a large bougie showed the absence of any stricture of the canal. Repeated examinations showed the urine to be only slightly acid, and that he passed, on the average, three pints a day. The urine was likewise characterized by the absence of albumen, sugar, casts, etc.; its specific gravity averaged 121. Our diagnosis was a lack of tone in the sphincter vesicae, and we placed the patient upon strychnine sulph., gr. 1-100th every three hours, and, to our gratification, after a continuation of this medication for two weeks, he made satisfactory improvement and in three weeks was quite cured.

If we wish to procure the antipyretic effect of quinia, we must of course, administer large and infrequent doses. In giving tonics, likewise, probably there is no advantage in deviating from the plan ordinarily followed in such cases, but I would urge the importance of trying, in the class of cases which I have mentioned, the frequent repetition of small doses.

REMARKS UPON ALCOHOL, FROM A CLINICAL POINT OF VIEW.

By JOHN A. OOTERLODY, M. D., Prof. of Obs. and Diseases of Women and Children in the Med. Dep. of the Univ. of Louisville, Ky.

The following is from the *Amer. Practitioner*, February, 1884. The real value of alcoholic beverages as medicine or food can not be ascertained by

experiment or by a study of their effects in poisonous doses. It must be determined by clinical experience.

Acute diseases, in which danger to life or marked destruction of tissue is rapidly brought about and associated with a sudden accession of formidable symptoms, require the administration of alcohol in a considerable proportion of cases. In these it is generally productive of decidedly beneficial effects, tiding the patient over a period of danger when he could not utilize other food. It preserves the body from decay. It lessens temperature, and saves the fabric from death. This is seen most conspicuously in various forms of zymotic and other febrile diseases.

The laity generally are not aware that alcohol lessens temperature, and hence do not understand its usefulness in many forms of fever. Yet it is exactly in this class of diseases that alcohol performs a duty more satisfactorily than any other stimulant.

The administration of this agent is also useful when the surface of the body has been chilled, and when the vital powers are so weakened that the heart is unable to do its work in propelling the blood to the capillaries with the usual ease. It may also be used with great advantage—as surgeons especially know—in cases of prostration from shock, and in that slower prostration which follows acute diseases after these have expended their force.

Anemia resulting from hemorrhage, nearly always requires alcohol, and often when otherwise induced it is benefited by it. Few practitioners who have encountered post-partum hemorrhage, and the shock and exhaustion following it, but will allow that alcohol is not only useful but in many cases seemingly indispensable.

In many persons debility is principally due to a failure of gastric digestion, and this may often be relieved by the appropriate administration of some preparation of alcohol in diluted form.

It was long since observed that phthisical patients who have delicate skins and perspire very freely, but with whom oil and fatty matters habitually disagree, are remarkably benefited by alcohol, especially when taken in full dose; and they may even take oil and fats with impunity if these be combined with alcohol.

During the stage of disintegration in tuberculosis, with hectic fever, etc., the judicious administration of alcohol often produces signally good results. However, the necessity of discriminating between cases must not be lost sight of, for alcohol is not equally well suited to all.

The wasting diseases of childhood furnish a large class of cases in which alcohol is an invaluable remedy. What was said with regard to the effects of alcohol in acute diseases applies also to a considerable extent to this class.

In chronic suppuration, whether in adults or children, alcohol is exceedingly useful, and its judicious administration is frequently efficacious in warding off serious and even fatal results. The combined experience then of competent and impartial observers warrants the statement that in the diseases enumerated, alcohol is a remedy of great potency, and that they can be more successfully treated with alcohol than without it. There are many other morbid states in which this agent may be used with decided benefit to the patient, but the limits of this paper will permit no further extension in this direction.

That a remedy powerful for good should also be capable of ill must be expected. It requires no great experience to perceive that in certain cases alcohol, for some reason, does not fulfill our expectations. A few practical rules for guidance at the bedside may not be out of place here.

It may be considered that alcohol is acting well when, under its use, the pulse becomes stronger and less frequent—when the skin becomes moist and cooler; if the countenance becomes quiet and natural, when the breathing becomes tranquil, when, even under full doses of alcohol, there is no alcoholic odor emitted by the breath, when the tongue, previously dry, becomes moist and tends to clean, and when the patient becomes quiet and sleeps.

On the contrary, the action of alcohol is unfavorable when under its use the pulse becomes more rapid, and the skin hot and parched, the countenance flushed and excited, the tongue more dry and baked, the breathing more

hurried, when the odor of alcohol can be perceived on the breath, and the patient grows wakeful and restless.

The belief has found general acceptance that stimulants are injurious, because their stimulant action is followed by reaction in the opposite direction.

Of this reaction I myself have never seen any proof. Anstie remarks very truly on this point, a stimulus promotes or restores some natural action and *is no more liable to be followed by morbid depression than is the revivifying influence of food.*

It seems then, in fact, that moderate doses of alcohol are not followed by depressive reaction either in health or disease. Alcohol in over-doses, that is, in narcotic or intoxicating dose, is undoubtedly injurious, but this may be said of any other medicinal agent, especially of those belonging to this class. And "we must not assume that because a large dose is injurious a small one is so also. Lime and salt are necessities of life, and yet they are injurious in large doses, and it is not an argument against their use in small doses."

But alcohol is not only a medicine but a food. In this double capacity it does not stand alone. It is of course well known that some have rejected the claims of alcohol to be considered as a food. The grounds for so doing however appear insufficient.

Whether alcohol is used as a medicine, food, or luxury, certain rules should be observed:

1. Alcoholic beverages should be taken at or about meal time, or at any rate in combination with food.

2. If liquor, it should always be diluted.

3. The quantity and the interval at which it is taken must depend upon the condition of the patient, the form of alcoholic beverage used, and the effect it is desired to produce.

4. Whatever be the variety of liquor, it must, in order to be fit for medicinal use, be *pure* and sound and of sufficient age.

5. When the stimulant effects of alcohol is required, especially in cases of acute disease, or in sudden emergencies, good whisky or brandy is to be preferred.

6. That form of alcohol which in our opinion is best suited for general administration to patients in this country is the so-called Bourbon whisky. This can be more readily procured of good quality and requisite age than either brandy or wines, and possesses every virtue which can be claimed for either of the latter.

ON A METHOD OF ABDOMINAL TRACTION, AND ITS APPLICATIONS.

By HENRY HARTSHORNE, M. D., of Philadelphia.

The following is from the *Medical News*, March 1, 1884. Easy experimentation on my own person satisfied me, as it may anyone, that Sylvester's method (the best in use) has very little *compulsory* power in expanding the lungs. One may, without the slightest difficulty, effect *expiration* while the arms are raised backward and far over the head, and *inspiration* while they are being brought down and pressed laterally against the ribs.

Considering the large amount of force readily exercised by the diaphragm in what is called "abdominal" as distinguished from "thoracic" respiration, it is reasonable to suppose that, in asphyxia from any cause, respiration may be prompted and assisted in renewal by *drawing the viscera away from below the diaphragm*. Such is the intention of the apparatus which I now propose to describe. It consists, first, of a tube or pump, not unlike, in shape and size, to an ordinary enema syringe of the old-fashioned kind; holding, however, somewhat less than a pint, for lightness; and having a cross-piece at the handle, for greater firmness in traction. It is constructed as a *two-valve* exhausting pump; so that, by drawing upon it again and again, a firm hold may be taken and kept.

Secondly, the tube is adjusted to a large cup or metallic bowl; designed to be applied to the abdomen. I have had two sizes of bowl made, so as to

suit bodies of greater and less width and stature. One bowl is seven and a half inches across its outer rim, and five inches deep; the other is six inches across, and three and a half inches in depth. Either may be affixed to the exhausting pump for abdominal traction.

No case of drowning or other asphyxia having come under my observation since the instrument was constructed, I have had so far to content myself with its trial upon the living body, with normal respiration, and some applications of it to dead subjects. The least that may, in my judgment, be expected of it is, that it may render valuable aid to the Sylvester method; just as *counter-extension* does to *extension* in the reduction and treatment of fractures. The two methods may be combined with perfect facility and convenience.

More positive ground of confidence appears to me to exist, in regard to the application of a similar mode of abdominal traction to the treatment of *strangulated hernia* and some forms of *intestinal obstruction*. This is not a new proposition. Authors mention it as having been put in practice by Anton Nuck, the eminent anatomist and surgeon, professor in the University of Leyden, near the end of the seventeenth century. It is said to have been a method sometimes in use by Russian practitioners; and allusion to it was made in an English medical journal within a year or two, the reference to which has recently escaped my search.

Slight reflection will show that the reduction of a femoral or inguinal (of course not an umbilical) hernia must be promoted by forcibly abstracting the mass of the contents of the abdomen in a direction opposite to that of the protrusion. This is the *rationale* of the common expedient of raising the patient's heels high above his head, which I have known to be quite effectual in practice.

Also, it is evident that if, in a case of *intussusception*, we could seize either the received or the receiving portion of the gut, and draw upon it, we should almost certainly relieve the invagination. While this is not *sure* to be done in every case by abdominal traction, it affords a *greater probability* of such a result than any other mode of treatment without laparotomy, and hence it is worthy of careful trial.

DIABETES MELLITUS.

Dr. GEORGE B. SHATTUCK, Visiting Phys. to Boston City Hospital, in a report published in the *Boston Med. and Surg. Jour.*, March 13, 1884, gives the following summary on the above subject. As the result of the contributions of Frerichs, Senator, v. Jaksch, Penzoldt, and others, the following statements may be made:—(1.) The so-called "diabetic coma" is only one of several similar forms of intoxication in different diseases. (2.) Aceton, or diacetic acid, may still be proved to be a poisonous agent in the production of this condition, but it can in any case be but one of a number of such agents evolved within the system, and the name "acetonæmia" is unsuitable at present. Other substances, it should not be forgotten, also give the red reaction to chloride of iron. (3.) Certain pathological conditions (of the lungs?) may be necessary to allow the poisonous action of diacetic acid upon the economy. (4.) A better knowledge of the whole subject of the formation of poisonous agents within the economy under favorable conditions may reasonably be expected from physiological chemistry, and of their mode of action from further clinical observation. (5.) The physiological hypothesis explanatory of the sense of fatigue as being the result of such agents, and the evolution of the so-called "ptomaines" in dead bodies point in this direction.

Dr. Shattuck also writes as follows concerning,

HEREDITARY POLYURIA.

M. Weil (*Wien. Med. Presse*, No. 40, 1883,) reports a striking instance of polyuria as a family characteristic. He investigated the medical history of ninety-one members of the family of a patient, the subject of polyuria (diabetes insipidus), of whom seventy were living at the time, and found that

no less than twenty-eight were polyuric. These polyurics had, as a rule, enjoyed good health, and many reached advanced age without any treatment. Weil expressly excludes imitation (canine polyuria) as an explanation in these cases, but it is difficult to avoid a suspicion of it.

DISEASES OF THE NERVOUS SYSTEM.

PROGNOSIS IN VARIOUS FORMS OF PARALYSIS.

By PHILIP ZENNER, A. M., M. D.

The following is from the *Louisville Med. News*. I wish, in this paper, to speak briefly of some of the more prominent forms of paralysis with especial reference to their prognosis, and though the latter cannot be properly determined without previous knowledge of the exact lesion or disease in each instance, yet a general consideration of the gravity of the various forms, and of means which often assist us to properly determine the prognosis in the individual case, will, I trust, be both instructive and interesting.

We will first consider the most common form of paralysis of central origin—hemiplegia. In the great majority of cases this is due either to embolism of the middle cerebral artery or its branches, or to hemorrhage in the vicinity of the corpus striatum. There is paralysis of the limbs and face on the side opposite to the seat of lesion. If the patient recovers from the apoplectic attack, which usually ushers in the paralysis, and his life is no longer in immediate danger, the important question arises, will he be permanently disabled by the paralysis, or will the latter entirely or largely disappear? The answer to this question will mainly depend on the seat of the lesion—on what part of the brain has been injured. When only the large basal ganglia have been injured, the paralysis usually disappears after a lapse of time, but when the internal capsule has been destroyed the paralysis is permanent. Whether the latter has, or has not occurred, is very soon revealed by the symptoms. If the internal capsule has been destroyed, there is subsequent degeneration of the pyramidal strands in the spinal cord, attended by such symptoms as rigidity of the paralyzed limbs, and exaggerated tendon reflexes. The rigidity of the paralyzed muscles is first observed after some time, usually months, after the original injury; but the exaggerated tendon reflexes (the foot clonus, exaggerated patellæ, tendon, reflex, etc.) may already be detected within a few days or weeks. They, therefore, at a very early day will assist us to a correct prognosis.

So, when we are called to a case of hemiplegia, and wish to determine whether the paralysis will be temporary or permanent, we should examine the tendon reflexes. If we find them to be exaggerated, we may already surmise that permanent injury has been done; and if, after a few weeks or months, rigidity of the paralyzed muscles is also observed, that surmise becomes positive knowledge.

As a general rule the prognosis of *spinal paralysis* is less favorable than that of cerebral origin. But among the various forms of spinal paralysis, some that present the most marked motor symptoms have, in reality, the most favorable prognosis. Thus, we often find with Pott's disease of the spine a high degree of paraplegia which may, later, partly or entirely disappear.

The paralysis is not produced, as was long supposed, by direct pressure on the cord from the angular curvature, but is due to secondary changes in the meninges or substance of the cord. The symptoms presented are those usually attributed to sclerosis of the lateral columns, paraplegia, rigidity of the limbs, often convulsive movements in the paralyzed parts, and greatly exaggerated tendon reflexes. In these cases, even though the paralysis be of some years' standing, improvement may be expected with much confidence after the acute changes in the bone have subsided.

In the disease termed *spastic spinal paralysis*, supposed to be due to primary sclerosis of the lateral columns of the cord, and presenting symptoms exactly similar to those just described, the prognosis is also more favorable than the marked symptoms would suggest; more favorable, in fact, than that of most of the organic diseases of the cord.

Let us next consider *peripheral paralysis* with special reference to the means of determining their prognosis. There are very many forms of peripheral paralysis due to traumatic or other causes, and also all degrees of intensity, sometimes being only slight and transient, at other times complete and lasting.

Let us take for illustration two of the most common forms, *facial paralysis* and paralysis of the muscles supplied by the radial nerve. One awakes in the morning and finds that the face is drawn to one side, that the eyelids cannot be closed—there is facial paralysis. There is no apparent cause. It is termed rheumatic paralysis. Probably the sheath of the nerve somewhere within the temporal bone is swollen and the nerve thus compressed. Again, we arise in the morning and find the muscles supplied by the radial nerve paralyzed. The patient had probably been lying upon that arm and thus compressed the nerve trunk. We find what is termed *wrist-drop*. The appearance is like that of lead paralysis, but it has come on suddenly and is limited to one side.

In either of these cases, especially the latter, the prognosis is generally favorable; the result, full recovery. But the paralysis may be of very short duration; it may be of long duration, and sometimes it is permanent.

Have we any means by which we can determine, then, the prognosis in each case? Yes, in the electrical reaction of the nerves and muscles. Normally the muscles contract when electricity is applied to them directly, or to the nerves supplying them. But the electrical reaction may be quite different as a result of pathological changes. The most prominent changes are those termed the reaction of degeneration: Here the muscles do not contract when electricity is applied to the nerve supplying them; they do not contract when the interrupted or faradic current is applied directly to the muscles, but do contract, in a different manner from the normal, when the constant, or galvanic current is applied directly to the muscles.

Now, let us revert to our case of facial paralysis. If no change takes place in the electrical reaction, but the latter remains as it is normally, the paralysis will be of short duration, and a full recovery will ensue. But if the reaction of degeneration is soon observed, paralysis will be of long standing; recovery will be slow, perhaps incomplete; or the paralysis may be lasting.

In some cases the reaction of degeneration becomes only partly developed. Here the prognosis is more favorable, though less so than where no changes occur in the electrical reaction.

The same test will assist us in the prognosis of one case of paralysis of muscles supplied by the radial nerve as well as in all other cases of peripheral paralysis.

I will next mention a class of cases in which the prognosis is far more favorable than the clinical picture presented would, at first sight, lead us to suppose; that is, the *paralysis following infectious diseases*. We most frequently find these after attacks of diphtheria. The paralysis of the soft palate, muscles of the eye, etc., are known to you all. Their prognosis is nearly always favorable. But these are not the only paralysis caused by diphtheritic poisoning. There is, less frequently, paralysis of spinal organ, paraplegia, ataxia, etc., which may be very marked, even alarming in their appearance, but whose prognosis is, nevertheless, as favorable as that of the more common forms of diphtheritic origin.

The prognosis of this class of cases illustrates the fact that in forming a proper judgment of the gravity of a case, it is often necessary to know not only the seat and extent of local damage, but also something of the character of the pathological process, to know the course of the disease. Thus, we have learned of diphtheritic paralyzes that, while apparently very serious, they usually terminate favorably. In some other diseases we will find that, while the paralytic manifestations, especially in the beginning, may be very mild, we must expect the most unfavorable termination. In cases of *multiple*

sclerosis of the brain and spinal cord, though the symptoms presented may be slight, we know that the tendency of the disease is to extend, and, though very slow in its progress and variable in its manifestations, it will not terminate in recovery. The same may be said, with some modifications, of *locomotor ataxia*.

These diseases, though tending to extend, do not, as a rule, immediately threaten life, while some others lead directly to a fatal termination. Thus, amyotrophic lateral sclerosis, attended by paralysis and wasting of muscles, causes death, through involving the medulla oblongata, within a few years of its inception.

Progressive muscular atrophy terminates in the same manner, at a much later date. Some acute spinal paralyses, notable Lantry's paralysis, may terminate fatally within a few weeks, while others, not unlike the latter in general appearance, as some cases of sub-acute anterior poliomyelitis may terminate in full recovery.

In all these cases, in order to arrive at a proper prognosis, we must first make a correct diagnosis and know the course of the disease.

APOPLEXY AND APHASIA IN A BOY TEN YEARS OLD.

By TALBOT JONES, M. D., St. Paul, Minn.

The following is from the *Jour. Amer. Med. Ass'n.*, Feb. 23, 1884:—So unusual is it to encounter apoplexy in young children, that probably few physicians even in extensive practice, or those making diseases of the nervous system a specialty, have met with a case. Its extreme rarity is dwelt upon in all the literature of the subject. The case I shall report is where an extravasation of blood occurred in the cerebral substance, the interesting features being the age of the patient, the aphasia, and certain points relating to localization. The boy, aged 10, was rather robust, and had never been sick in his life, save from occasional constipation. One day during the middle of March, 1883, while engaged with his brother in coasting, he suddenly felt faint and nauseated, walked to his home several rods off, complained of pain in his head, dizziness, and vomiting profusely. He then became rigid, partially unconscious, but when aroused would quickly lapse into a soporose state. His face was flushed, pulse slow and full, whole body flaccid, and his extremities cool. His temperature in the axilla, according to Dr. Stoddard, who was called, was below the normal (95° F.). His breathing was stertorous and somewhat explosive; reflex irritability abolished, and there was well marked conjugate deviation of the eye. His respiration was labored and irregular; the face tumefied from venous congestion, and cyanosed. Deglutition could still be performed.

He remained in a semi-comatose state for thirty-six hours. After emerging from his unconsciousness he appeared dazed, bewildered, and experienced a confusion of ideas.

There was complete right hemiplegia, without disorders of sensation; conjugate deviation of the eyes, and lateral rotation of the head to the side of the clot, together with paralysis of the right half of the tongue. The special senses were not affected. Not all the muscles of the face were paralyzed; those chiefly involved were muscles whose nerve supply is derived from the cerebral ganglia—the elevators of the wing of the nose, the buccinator, and respiratory filament of the facial, etc. It is extremely rare for all the muscles innervated by the facial nerve to be coincidentally paralyzed in cerebral hæmorrhage. The patient was fully aroused, it was now discovered that he had lost the power to express his ideas in articulate language. The aphasia was complete. His ideas were evidently well stamped on the mind, but there was an inability to communicate them by language—the so-called aphasia from "verbal ideation" of Jaccoud. The boy could read but not speak. Though unable to employ language, his expressive countenance showed that there was no mental decay. When spoken to his affirmative or negative replies would be by a nod or shake of the head. This aphasia lasted for a period of five weeks and gradually passed off. His command of language

constantly improved, though slowly. Indeed, his father informed me that the boy had to learn his language over again. When I examined the patient some six months subsequent to his attack, the aphasia had about disappeared. While able at this time to walk, his right leg yet showed signs of paralysis; in bringing this limb into play it described slight oscillations from behind forward. The right hand and foot were cool, and the right thigh one-half an inch less in circumference than its fellow. The patella tendon reflex was exaggerated. Electrical reactions were apparently the same on both sides. The tongue was no longer paralyzed. The effects of the paralysis were much more pronounced in the arm than in the leg.

One of the most interesting features of this case was certain choreic movements of the muscles of the paralyzed side—the so-called post-hemiplegic chorea, which was first described by S. Weir Mitchell and subsequently studied by Charcot.

With regard to the ætiology, the patient's age at once suggested an embolism as the probable cause. A careful examination of the heart, however, showed the absence of roughening, or valvular lesion, nor had he ever suffered from scarlet fever, syphilis, or an aneurism. The cause was, doubtless, owing to an extravasation of blood in the cerebral mass, due to the rupture of a minute aneurism; for Charcot goes so far as to assert that rupture of aneurisms of minute arteries is always the immediate cause of cerebral apoplexy.

HYDROBROMIC ACID IN EPILEPSY.

By HORATIO C. WOOD, M. D., Prof. of Materia Medica and Therapeutics in the Univ. of Penn.

The following is from a paper published in the *Medical News*, Feb. 23, 1884:—The verdict of those neurologists who have used hydrobromic acid has been strongly against it, and my own earlier experience coincided with this. Thinking over the matter, it occurred to me, that this negative result had been caused by the failure to use the remedy in sufficient amount. One or two teaspoonfuls of a three per cent. solution (Fothergill's formula) seems to have been the common dose.

The acidum hydrobromicum dilutum of the United States Pharmacopœia is a ten per cent. solution, yet one drachm of it is only equivalent in bromine strength to nine grains of the potash salt. A teaspoonful of Fothergill's solution represents scarcely three grains of the bromide. It is plain, therefore, that much larger doses of the acid should be employed.

In my ward at the Philadelphia Hospital there are twelve cases of old, severe, essential epilepsy, which from August 13, 1883, to September 15th, were taking each seventy-five grains daily of the bromide of sodium, and in most of which the acne and other evidences of bromism were very pronounced. The patients were left fifteen days without medicine, were then given a half fluid-ounce of the officinal hydrobromic acid three times a day for twenty-three days; after this the dose was increased to six fluid drachms for six days; then to one ounce for forty-three days. After this, for sixty-two days, they were given each ninety grains of the bromide of potassium daily. The results are expressed in the following table.

The smaller number of fits in the first entry of the second column is obtained by deducting from the whole number the many fits occurring during three days of epileptic status in one person.

Medicine, Daily Dose.	Number of Days.	Number of Fits.	Averages number of fits occurring in the 12 patients conjointly, per day.
Bromide of sodium, 75 grains, . . .	33	227 (or 95)	6.9 (or 3.9)
No medicine,	15	241	16.1
Acidum hydrobromicum dilutum, f $\frac{3}{4}$ iss,	23	81	3.5
Ibid. f $\frac{3}{4}$ ij f $\frac{3}{4}$ ij,	6	12	2.0
Ibid. f $\frac{3}{4}$ iij,	43	79	1.8
Bromide of potassium, 90 grains,	62	132	2.2

It will be seen that the effect of the acid in reducing the number of fits was directly proportionate to the dose, and was very pronounced. When three fluidounces were given daily, the number of fits was reduced to about

one-tenth of those which occurred when no remedy was administered; whether the great number of fits which occurred during three days of epileptic status is deducted or not from the roll of the sodium bromide, the effect of the acid was much greater than that of the seventy-five grains of the salt.

Even the largest dose of the acid was better borne than were the seventy-five grains of the bromide of sodium. The eruption of acne was much less universal, and when present much less severe, whilst the peculiar apathetic countenance of bromism was entirely wanting, although it had been very distinct in several of the cases whilst the salt was being administered. The effect of a daily dose of ninety grains of the bromide of potassium upon the recurrence of the convulsions was not as great as that of the full doses of the acid, but the bromism produced was distinctly more severe.

The acid was given after meals, with an equal amount of ginger syrup. Each dose was diluted with a full half pint of water, and no evidences of gastric irritation or other disagreeable symptoms were produced. It must, however, be borne in mind that the cases were old epileptics from the lower ranks of life, and in robust general health, with insensitive, powerful digestive organs, so that I think in private practice these large doses should for the present be used with caution. I have, however, given half ounce doses to a delicate girl without perceptible evil effects of any kind.

FORCED FEEDING OF THE INSANE.

By WALTER CHANNING, M. D., Boston, Mass.

The following is from a paper published in the *Boston Med. and Surg. Jour.*, April 3, 1884:—For a number of years, as well as at the present time, one of the fundamental principles in the treatment of the insane has been the administration of the most liberal nourishment, both in quality and quantity. Dr. Clouston has recently called particular attention to the subject. He has given enormous quantities of eggs and milk, often a dozen of the former and six or seven pints of milk daily. This is an excess of nourishment, as he would formerly have thought, and even now food must be given in a haphazard sort of way, but he has seen patients gain two or three stone in weight, and acquire nervous stability, on the liberal diet he speaks of.

In America the subject of properly nourishing the insane by force, if not otherwise, was incidentally considered at the meeting of the superintendents of American Hospitals for the Insane, held in 1883. At this meeting Dr. Rogers read a paper, in which he spoke of the need of abundant nourishment in mania and melancholia. "Food," he said, "may be given by the stomach pump, or nasal tube with a fountain syringe. . . . The will of the patient not to take food or medicine should never be an obstacle to the physician."

Dr. Hurd described at the same meeting in a paper read by him the apparatus used by him in forced alimentation through the nose. This apparatus consists of a Jacques or Nélaton soft rubber catheter attached to the largest-sized Hall's health syringe. The catheter is passed through the nostril and food is injected by pressure upon a bulb provided with a valve.

In the discussion which followed the reading of Dr. Rogers's paper on the Therapeutics of Insanity, Dr. T. W. Fisher spoke strongly in favor of the use of the nasal tube, and said that the patient should be fed three times a day with large quantities of nutritious, liquid food. He had recently had very favorable results in nearly a dozen cases. In several he thought life was saved by the artificial feeding. Dr. W. W. Godding thought that it was almost criminally wrong to allow a patient to remain for more than a short space of time without food. Dr. J. W. Draper believed in the necessity of forced alimentation. Dr. W. B. Goldsmith thought that a large amount of food was necessary in acute maniacal excitement, but in melancholia with stupor and less exhaustion and waste, he thought a fourth as much nourishment would be sufficient. His practice was to put a patient to bed while he was fed with a tube, as his circulation and general nutrition would then be better. Dr. Catlett thought it best not to feed too soon, but ultimately if

necessary. Dr. Hill used both the nasal and stomach tube in feeding, but tried moral suasion with the patient first. Dr. Gale used the nasal and stomach tubes, but resorted to every other device first. Dr. Steeves thought it easy to fall into a prefatory habit of using the tube, and continuing its use too long. A patient may at any time be induced to take food, and various expedients should be resorted to to restore the habit.

The above and other members of the Association spoke on the subject of administering food to the insane. The articles chiefly recommended to feed with were milk and eggs, sometimes beef extract; combined with these things stimulants and tonics.

An elaborate and interesting contribution to the same subject has appeared in recent numbers of the *Archiv. für Psychiatrie*, etc., by Dr. F. Siemens, Director of the Provincial Lunatic Asylum at Ueckermünde. In the last number he says that refusal of food by the insane is often a symptom of diminished tissue change and lack of assimilative power, and in such cases feeding should not be pushed too far. It is questionable if forced feeding attended with struggles and exhaustion on the part of the patient does not do more harm than the food does good. Melancholic patients with stupor are like animals dormant in winter, and a lessened amount of nourishment makes little difference to them.

The abstinence from food in typhoid fever is interesting as bearing on the question of nourishment for the insane. In this fever we see a patient live for weeks on almost no nourishment. From the investigations of Chossat it appears that until forty per cent. of weight has been lost life does not become extinct, and taking the supposed daily loss of weight, it would require a period of eight weeks in an average case of fever before death would ensue from this cause. The elevation of the temperature in the fever, a product of the combustion of tissue, would appear to be a means of prolonging the life of the emaciated patient. Cohnheim has said that *die febrile consumption als unmittelbare Todesursache keine zu grosse Rolle spielen*.

Numerous cases are to be found scattered through the writings of various authors, of prolonged abstinence from food. Among these are Falret's case of a forty days' fast; Wiegand's case of an insane person who lived for sixty-three days without food. Sondén described a case in which only snuff was used for three weeks, and then for a period of thirty-five days nothing but water. The patient continued the entire time fresh and cheerful, although "*sein Bauch ganz und gar einsank*." He finally began to eat ravenously, and without the least injury. Bourneville's idiot fasted for twenty-eight days, during which time he had no passage of the bowels, little urine, no vomiting, fever, or pain. When three years old he fasted for three weeks, which seemed to show that mentally defective children can endure abstinence better than healthy children.

Stolz, and later Schlangenhäuser, described a remarkable case in a Tyrolean insane asylum. The patient was an old woman. She weighed, on admission, one hundred pounds, having previously fasted at home. She was fed artificially, but her weight sank to sixty-six pounds. She then fed herself, and her weight increased to ninety-six pounds. According to Schlangenhäuser she was twenty-three years in the institution. She was fed with the tube 12,037 times, and for an unbroken period of twelve years, and her weight fell off to fifty-four pounds. She became scorbutic, lost her teeth, etc.

This case shows the extraordinary tolerance of this patient in regard to a great degree of inanition, and the existence of all the unfavorable conditions which the believers in forced feeding say are avoided by this process.

Dr. Siemens' investigations led him to give up forced feeding except in the rarest cases of injury or paralysis. Unwilling patients were fed with a spoon, but if they objected by closing the teeth, crying, etc., even this was given up. The means of giving food relied on consisted in keeping food constantly either where it could be given to the patient or he could get it himself.

A special department was fitted up in Dr. Siemens' asylum, with nurses day and night, and every wish or whim of the fasting patient was gratified at the earliest moment. After a long-continued fast the patient was put in

bed. Little rooms were arranged where the patient could be alone with food. On the window-seats, or on little tables by the beds, food was placed. In cupboards tea and coffee were to be found, as well as raw and cooked eggs, fruit, wine, etc. With these very thorough arrangements, and the greatest care on the part of officers and nurses, Dr. Siemens allowed his patients to go for many days without food.

He details fifteen cases in which patients went for long periods of time without food. Case IV, for instance, of dementia paralytica, went once nine days, another time fourteen days, without food. Case VIII, of melancholia, abstained thirty-three days, with slight interruptions; loss of weight thirty-three pounds. Another time fourteen days, with thirteen pounds loss of flesh. Final result, complete recovery. Case IX, of mania, fasted absolutely for thirteen days; loss of weight fourteen pounds. Then took food regularly for twelve days. After this fasted for thirty days, taking water, however. Loss of weight the second time twenty-seven pounds. Final result, improvement.

Dr. Siemens ends his paper with twelve conclusions, some of which have been briefly indicated above. The fourth conclusion is especially interesting. This is as follows in substance: Voluntary abstinence, from purely psychical causes, is followed by no grave symptoms, either mental or physical, provided the period of abstinence does not exceed fourteen days without water, or fifty days with water, and the loss of weight does not exceed forty per cent.

MIGRAINE.

Dr. W. J. MORTON (*Med. Gaz.*) says: "The most satisfactory single remedy for the form of migraine in which there is angio-spasm is the bromide of sodium. Drachm doses are to be given at the very onset, and repeated in an hour and a half, if the attack does not cease. This will seldom fail in cutting short an attack. In addition, the same remedy should be given in ten-grain doses three times a day, for a period of from three to six months. The sodium salt does not depress the whole economy to anything like the extent the potassium salt does. Cod-liver oil and iron may be given in conjunction with the sodium bromide. The theoretical objection to the use of an agent believed to lessen the amount of blood in the brain, in a condition in which there is supposed to be anæmia of the affected side, is answered by the paradoxical assertion that in the spastic form of migraine the bromide probably increases the quantity of blood in the anæmic area by depressing the function of the vaso-motor system. Nitro-glycerine and nitrite of amyl, presumably from their power to control spasm, are very useful in the spastic form of migraine. The effects of nitrite of amyl are probably the more transient of the two. Nitro-glycerine is often of remarkable efficacy. A one-per-cent. solution may be given in doses gradually increased from one drop to five drops, three times daily. This agent is believed to be decomposed, in the presence of an alkali, with the production of nitrous acid. This decomposition may take place in the stomach, if it be alkaline; otherwise, and more slowly, in the blood. Nitro-glycerine is best given after the meals. The bromide of sodium may be given with advantage, at the same time, before meals.—*Southern Med. Record*, March 20, 1884.

DISEASES OF THE ORGANS OF RESPIRATION.

THE PRESENT STATUS OF THE TUBERCLE-BACILLUS QUESTION.

By ERIC E. SATTLES, M. D., of Cincinnati, O.

The following is from a paper published in the *Cincinnati Lancet and Clinic*, April 5, 1884:—Whether we are believers or non-believers in the germ

theory of disease, whether we uphold or oppose the infectiousness of tuberculosis, whether we look at the tubercle-bacillus as the cause of tuberculosis, or only as an effect or result; whether we regard the tubercle-bacillus as a micro-organism, or as a fat crystal, fibrin, or what not, no matter what our creed, no matter what our belief may be as regards this mooted question under discussion, we must acknowledge the following statements as truthful and reliable, fully substantiated by clinical and experimental evidence.

1. *The bacillus made known to us by Koch, when present in the sputum, is not absolutely pathognomonic, is a most valuable diagnostic sign of pulmonary tuberculosis.*

2. *In doubtful cases of phthisis pulmonalis, its presence or absence must be considered the criterion upon which to base or exclude our diagnosis.*

3. *The presence of "Koch's bacilli" in the urine is trustworthy evidence of tuberculosis of the bladder, kidney, prostate or testicle.*

4. *If found in the feces, they seem to indicate the presence of tubercular ulcer of the intestines.* More extended observations are necessary to make this an accepted fact.

5. What their significance is when found in ulcers of the tongue, the soft palate, etc., is still unsettled. Perhaps in the future they may become important differential factors between doubtful and puzzling lesions of syphilitic and tubercular character.

What influence do the bacilli exert on our prognosis?

Here the number of bacilli found is our prognostic guide. But we must not be hasty in our conclusions, basing them simply on one or two examinations. Repeated microscopical examinations, at definite intervals, for weeks and even months, are necessary to formulate a prognostic opinion. Thus the presence of a limited number of bacilli one day and a greatly increased one next day, has no significance, while the repeated observation of small numbers of bacilli or the opposite, would exert more or less influence on our prognostications. We might formulate the following statements:

1. *An abundance of bacilli, on repeated examinations, at the onset of the disease, denotes a rapid progress, and hasty termination if persistent. An abundance of bacilli, on repeated examinations, always signifies an active progress of the disease.*

2. *A scanty number of bacilli at the onset generally indicates a very chronic course.* (We must not forget that cases of acute miliary tuberculosis have been reported, with very scanty expectoration, and very few, if any, bacilli. Some observers even hold that bacilli are never found in the sputa of these very acute cases. Post-mortem swarms of bacilli are, however, found in the tubercle nodules.) *Few bacilli, generally, augur favorably in others than very acute cases, and a complete disappearance of the bacilli shows that the tuberculous process has come to an end; a reappearance, a fresh outbreak of the tubercular disease.*

Is phthisis contagious? Our question must be answered.

1. *Clinical evidence is rather against than for the contagiousness of phthisis.*

2. *Experimental evidence so far does not warrant us to give a conclusive answer pro or contra.* Extended observation, careful repetitions of old experiments will be needed to disentangle conflicting results. Perhaps in the future the discrepancies now existing may be merged in one harmonious whole.

When we consider the relation of the bacilli discovered by Koch, as to their bearing on the etiology of tuberculosis we can divide the conflicting opinions under five different groups:

1. Those observers who hold that the bacillus stands in no relation whatever, with tuberculosis.

2. Those who maintain that the bacillus is the specific cause of tuberculosis.

3. Those who do not deny some influence of the bacillus, but affirm that it requires some predisposition, a suitable breeding soil, an individual receptivity or what not, to make its influence potent.

4. Those who hold that the bacillus is the effect, consequence or result of tubercular changes and not their cause.

5. The small number of those who hold that the organisms are the means only of a salutary elimination of morbid matter.

Dr. Henry MacCormac, of London, begins a small pamphlet on the Etiology of Tuberculosis with the following words (chorus of possible supporters of Dr. Koch.)

What is consumption? the bacillus!

What is bacillus? consumption!

But what causes consumption? why the bacillus!

And what causes the bacillus? why consumption to be sure!

He stigmatizes Koch's discovery as nothing more than a pathological curiosity.

Kesteven, N. B. and W. H., come to the following conclusions:

1. Specific differences of bacteria or bacilli as belonging to different diseases have not been conclusively demonstrated.

2. These organisms have not been found except in association either directly or indirectly with pre-existing disease of a degenerative nature and that therefore, they have not yet been proved to be primary agents of infective disease.

3. The probability of the origination of phthisis from germs in the atmosphere is contradicted by the immunity of large numbers of persons specially exposed to their agency.

4. It is probable that these germs reaching internal organs may be the means of a salutary elimination of morbid matter.

If we were to sum up in an unprejudiced way, we might say: *The relation of the bacillus to tuberculosis as regards etiology is not yet absolutely settled.* The majority of clinicians, practical physicians and perhaps even investigators seem to side with group three, those who do not deny some influence of the bacillus, but affirm that it requires some pre-disposition, a suitable breeding soil, an individual receptivity or what not, to make its influence potent.

Has the treatment of tuberculosis been affected much by Koch's discovery of the tubercle-bacillus? Our answer must be *no* decidedly no. We had tried antiseptic inhalations before, and found them of little avail; we tried them again and were disappointed. Injections of antiseptic solutions were even directly made into pulmonary tissue by Fraenkel and others, but without encouraging benefit. Now we are experimenting with medicated chambers at San Remo and other health resorts; with what success time must show. We must tremble lest in the eager hunt for specifics against the bacilli, we lose sight of that most important factor, the pre-disposition, the soil upon which the bacilli seem to flourish. We may kill the bacilli and at the same time kill our patient, if we disregard this influential agent. Our treatment must be preventative, supporting, strengthening; it must be symptomatic. If I should express myself freely, taking into due consideration our present knowledge. I should say: Let the bacilli take care of themselves, let us take care of our patients.

GERMICIDES AND TUBERCULOSIS.

From an editorial in the *New Orleans Med. and Surg. Jour.*, May, 1884.

It is not surprising that after the ætiological data given by the German mycologist Koch in his fascinating theory, clinicians and experimenters, alike, should have enthusiastically grasped the idea so plausibly given, and at once proceeded to the vigorous application of its teachings. In fact, it was reasonable enough to expect, with some that, "once the particular parasite was found, upon whose presence in the organism the manifestations of this disease depended, nothing would be easier than to determine the drugs that were poisonous to it. And, these two factors being given, what would be more easy than the solution of the problem of cure? It would only be necessary to give the remedy in quantities sufficient to kill the parasite, and our patient would be cured; provided, of course, that the microbe had not had time to produce organic lesions." But it appears the criterion of experience has decided against this mode of reasoning, and it is becoming every day more plain that, notwithstanding the continued activity of experimental therapeutists, and notwithstanding the fertility and boundless plenitude of the pharmacal agencies that have been pitted against this alleged parasitic

disease—or, rather its formidable bacillus—it has not been rendered in the least less deadly. To cite a few, we would ask—have the corrosive sublimate medication of Binz, the antiseptic inhalations of Yeo, the iodoform and turpentine pulverizations of Semmola, and the novel and surprising methods of Fraenkel and Koch (of Kiel), and those of many other enthusiastic advocates of Germicidal therapeutics, made consumption less fatal? We can well answer with a recent and able writer (Sattler) “no,” decidedly no.

As further evidence of our persisting inability to cope successfully with this difficult problem—at least through our newly acquired knowledge of the bacillary associations of phthisis pulmonalis—we will cite the recent report of Messrs. Coze and Simon, Professors at the Medical School of Nancy, France (vide *Bulletin General de Therapeutique*, March number) who though firm believers in the Kochian theory, acknowledge, after a series of experiments, that, even from the experimental standpoint, the bacillus is invincible. These gentlemen divided their experiments into three series:

In the first, they endeavored to destroy the virulent or infective properties of the bacilli prior to their inoculation into the organism, by mixing a given quantity of phthisical sputa with an antiseptic agent. The mixed sputum they injected into guinea pigs. Bichromate of potash, corrosive sublimate, sulphuretted hydrogen, creasote and eucalyptol, were the germicides experimented with. All the animals, excepting those injected with the sputa, previously sterilized by the corrosive sublimate, were found tuberculous.

In the second series, the authors investigated the effect of a subcutaneous injection of an antiseptic used separately, though immediately after an inoculation with tuberculous sputa, and followed by hypodermic injections of germicides, daily used. Corrosive sublimate, eucalyptol, helenine, sodium benzoate, creasote, calcium-sulphide, hydrogen-sulphide and other substances were tried. After an appropriate length of time, some of the animals experimented upon were killed and they were found tuberculous; the remainder died finally from the same cause, about three months after the inoculation.

In the third series, the tuberculous process was allowed to perfect its evolution and then efforts were made to arrest its progress by regularly administered antiseptic injections (of potash permanganate, sodium sulphide, thymol). The medication proved an utter failure, all the inoculated pigs dying from the disease as if no counteracting agencies had been resorted to.

Though such evidence as this cannot rightly be regarded as final, still it proves to us that laboratory and bedside observation harmoniously decide, so far, against the curability of consumption by germicides.

THE CONTAGIOUSNESS OF PHTHISIS.

By E. J. KEMPF, M.D., Ferdinand, Ind.

We take the following from the *Louisville Med. News*, March 22, 1884:—

Dr. Kempf says:—I will go yet a step further, though I do not claim originality in the idea, to say “that we can limit to a marked degree the spread of the most widely prevalent and fatal of all diseases, consumption, by rigid cleanliness, ventilation, destruction of the sputum, and isolation of the patient.” The management of tubercular patients becomes one of the great hygienic questions of the day, indeed, if the contagiousness of phthisis is proven. Proven by what? By further discoveries of Kochian bacilli, and by reports of cases proving the contagiousness of phthisis. And if, in the course of time, statistics tell us that phthisis is as much contagious as small-pox and much more fatal, and if further discoveries tell us that the contagiousness of phthisis is really due to a bacillus, then will we be prepared to combat at least the spread of the disease, and be better able to await the discovery of a specific remedy for the malady.

To offer my mite in the way of statistics on the contagiousness of phthisis is the object of this paper. And I hope that my modest effort may not be without interest.

The author of the paper then gives the history in detail of cases which came under his observation in convents where nurses and patients occupied

the same room, and in several instances the same bed, etc., and offers the following remarks:—

Remarks: What lessons can we draw from the above facts? I give them as I see them classed and ordered:

1. That such cases should be reported, in order to swell the statistics. Only in this way can it be decided whether pulmonary consumption is contagious.

2. My report ranges itself on the side of the contagiousness of phthisis.

3. That acute cases of pulmonary phthisis acquired by persons because the peculiar construction of their bodies predispose them to it are contagious; and that chronic and lingering cases, not characterized by rapidity or virulence, are either not contagious, or at least not markedly so.

4. That cases of pulmonary phthisis should be isolated, and that they should share their sleeping-rooms, provided they are large and well-ventilated, only with patients sick with the same disease. That this is absolutely necessary; never should a healthy person sleep in the same room with a consumptive.

5. That we can thus limit the spread of this dread disease, especially in schools, etc., where large numbers of the human family are congregated.

6. That rooms used for consumptive patients should be isolated rooms, well-ventilated, large, high, cleanly, light, quiet, and in the lower story of a house, if possible.

7. That the sputum of patients be destroyed by carbolic antiseptics.

8. That rigid cleanliness and disinfection of clothes, personal, and of the bed, be enjoined.

9. That the principal lesson to be deduced from my report is that the cases of phthisis vary very much in severity, longevity, and in contagiousness. Why? Who will say that this is not the same with every other disease? Smallpox, so different in type in different epidemics; yellow fever, so fatal at certain times, so mild at others; typhoid fever, so severe in some instances; cholera, more virulent in some epidemics than in others.

ARSENIC AND DIGITALIS IN PHTHISIS.

By A. JACOBI, M.D., Clin. Prof. in the Coll. of Phys. and Surgs., New York.

The following is from a paper published in the *Med. Record*, Feb. 23, 1884:—

Many a case of pulmonary affection known to terminate in phthisis under most circumstances, heals spontaneously or remains dormant. At least we have reason to conclude so when of a number of cases with the same physical symptoms one or more never develop into phthisis, while the others run their complete courses.

If that be true, and known to be so by every practitioner, if spontaneous recovery may take place, why, the inference is that—this spontaneous tendency being given—recovery is the more possible and probable under the influence of well-directed medicinal and dietetic treatment.

The treatment has to vary according to the stage; the period of gradual preparation, that of inflammatory action, that of pyæmic fever, have their several indications. It has frequently varied in accordance with the theories held concerning the nature of the disease.

If there be any medicine which, besides quinine and mercury, has been called a specific in many diseases, it is arsenic. It is known to act as a poison, and a strong caustic. In small and frequent doses it improves connective-tissue growth, it thickens the connective tissue of the stomach, and increases periosteal and osteal deposits.

It cannot accomplish what it is known to do without local stimulation and irritation, which when moderate improves growth, when exaggerated (by large doses or in predisposed persons) leads to granular degeneration.

Its action, as long as it is restrained within certain limits, has been utilized by Hans Buchner for practical and theoretical purposes. The former consists in its administration for phthisis, the latter in the attempt to fortify the bacillus theory. In his belief phthisis can be prevented by keeping out the

bacillus. His theory is more shaky than his results. He relies on arsenic as his main medicinal resort in phthisis, and finds fault in Inard, who wrote, in 1867, only because of his using arsenic for curative only, and not for preventive purposes. In this remark lies the explanation of the effect which I claim myself also.

Consumption is almost always of long duration. Besides the original disposition, there are many attacks, every one of which can and must be treated when perceptible, or prevented before they fully develop. If such prevention be thorough, phthisis will remain dormant. That effect is accomplished by rational dietetics, climatotherapy, and finally by arsenic. Under the permanent use of arsenic the infiltrations diminish, elastic fibres disappear from the expectorations, the strength improves, and the weight increases. Of this result I have convinced myself in a great many cases while they were in the incipient stages.

Small doses of arsenious acid do not interfere with efficiency of saliva, and gastric and pancreatic juice, nor is the stomach itself affected by it. In some cases there is a slight sensation of pain or hunger, the result of which is increased appetite, an ingestion of food.

Hans Buchner asserts that the incipient stage is not the only period in which arsenic proves effective. That is true. It has the same, or rather a similar beneficial effect in the later stages. But he claims that complete recovery has been accomplished in the most severe cases, that perspiration and fever will cease, the pulse become less frequent and stronger, and the vital capacity increase even in far-advanced cases. This I believe to be overdrawn. Particularly in regard to the hectic fever I have almost always been disappointed. I believe that even digestion was not at all improved by arsenic in that stage. Thus it has become my rule not to prescribe arsenic at all while the fever is high, but to begin or return to it as soon as the temperature has a tendency to become normal. In the discussion following the reading of these remarks, Dr. F. R. S. Drake gave expression to his favorable experience in regard to the value of arsenic in the fever of phthisical patients. When I acted on that plan I had very often the satisfaction of improving the condition of very doubtful and far-advanced cases.

The doses ought not to be large. Nausea, colic, diarrhoea, oedema of the eyelids are contraindications to the continuation of its use. One-fifteenth, or one-tenth to one-sixth of a grain of arsenious acid, daily, is a sufficient dose for an adult if it is to be continued for a long time. In order to render it less liable to give rise to disagreeable symptoms a little opium may be administered with it. In most cases of incipient phthisis this combination is pleasant and useful. In such as show intestinal symptoms at an early period, its joint administration is a particularly happy one.

The preparations I use are either arsenious acid or Fowler's or Pearson's solution. The former it is best to give as a pill, in such combinations as I shall allude to shortly. Fowler's solution, three drops, or Pearson's solution, six drops, three times a day, in a few ounces of water, administered after meals, and gradually increased, will act favorably.

Digitalis.—Again I have no new remedy to advise, but desire to state that an old one has, in the course of three decades aided me much in relieving my patients. If I speak of as trite a drug as *digitalis*, I may be permitted to add, that while nothing that I say may appear new, it has seemed to me as if from year to year I learned better how to use it.

In the vertebrate, *digitalis* increases the energy of the heart-muscle and the volume of its contraction. Thereby it increases arterial pressure and diminishes the frequency of the pulse.

Thus both the local and general effect of *digitalis* are invaluable in all the stages of phthisis. While, however, they may relieve in the last, they are a healing element in the first stages. I seldom treat a case of phthisis without it. Very little care is required to avoid disagreeable results. Cumulative effects are either the consequences of excessive or too frequent—unnecessarily frequent—doses, or of the selection of improper preparations. I use the infusion, the tincture, the fluid extract, the extract. Their relative values I do not desire to discuss, except in regard to their advisability in phthisis, and

the possibility of continuing them for a long time. Now, whenever the stomach is much affected, neither the tincture nor the infusion is tolerated long. The latter may be given in three daily doses of half a tablespoonful each, or in two, of three teaspoonfuls each, for some time. But I seldom risk to recommend it for more than five or six days in succession without seeing the patient. The fluid extract has often disappointed me. My main reliance is on the extract; my almost universal method of giving it is in the form of a pill, in such combinations as will suit the individual case. The stomach does not object to it, taste is not offended by it. I often prescribe one and one-half to one and three-fourths of a grain, corresponding with three and a half times its weight of digitalis, for weeks, without expecting to see the case again. It combines with extr. nuc. vom., with iron, with arsenic, with quinine in small doses, with extr. belladonna or extr. calabar, with extr. coloc. comp., in fact with anything. Such combinations are frequently required in the early stages of consumption. At the same time iron, as I mentioned, may be added, when there is no fever; or caffeine, for its stimulant effect on heart and arteries.

What alcohol and ether are to the nerve, strychnia to the muscle, that is digitalis to the heart, unless in a condition of myocarditis. The increase of arterial pressure it produces is beneficial not only to outlying provinces, it is so to the circulation and nutrition of the heart-muscle itself. Thus in all cases of general anemia, in slow convalescence, where iron and nux are called for, digitalis is also required. It strengthens the heart, propels the blood in its own fibres, and shortens the period of recovery. I have learned to look upon digitalis, for restoring vigor and strength, as more than a mere symptomatic. I consider it to be one of the best tonics, along with iron, nux, and arsenic.

PNEUMONIA IN SAN FRANCISCO.

By J. H. STALLARD, M. D., San Francisco, Cal.

From the *Pacific Med. and Surg. Jour.*, March, 1884:—

There is a remarkable misstatement in the "System of Medicine," by Reynolds, which requires correction. Under the etiology of pneumonia it is stated that "Oregon and California appear to enjoy a singular immunity from this disease." This is certainly not the fact. Pneumonia is often exceedingly prevalent in the mining towns of the mountains; and in San Francisco it would seem to be nearly as fatal as it is in London. In the five years ending June 30, 1883, there were in San Francisco 1,067 deaths of white males from pneumonia, and 647 of white females. The mean population may be taken as the census return of 1880, viz.: 111,974 white males and 98,522 white females. This gives an annual rate of mortality from pneumonia of 1.82 per thousand of the males, and 1.26 per thousand of the females.

The percentage of mortality at different ages was as follows:

Under 1 year.....	15.0	Under 30 years.....	9.5
" 2 "	10.0	" 40 "	13.5
" 5 "	8.0	" 50 "	13.5
" 10 "	8.5	" 60 "	12.0
" 15 "	1.5	" 70 "	8
" 20 "	1.5	Over 70 "	4

The census officers at Washington having kindly supplied me with the ages of the population, I am able to give the annual mortality per 1,000 living at the same ages:

Under 20 years, it is 0.8 per 1,000	Under 50 years, it is 1.76 per 1,000
" 30 " " 0.90 " "	" 60 " " 2.90 " "
" 40 " " 1.54 " "	" 70 and over, 5.10 " "

Pneumonia therefore increases in fatality with advancing age, and is par excellence a disease of adult life.

In San Francisco pneumonia prevails the whole year round, but the mortality at all ages is greatest in December, January, February and March. Fifty per cent. of the entire mortality occurs in these months. This is the

season of great changes of temperature between noon and night, and when cold, damp fogs are often prevalent.

In San Francisco pneumonia was epidemic in January, February and March, 1882, when there were 169 deaths; and in the same months of 1883, when there were 157 deaths. In 1882 the increased mortality did not extend to all parts of the city. In the 3d, 5th, 8th and 11th wards there was no increase. The excessive mortality was in the 4th, 6th, 9th, 10th and 12th wards; the latter comprising some of the most insanitary districts.

Pneumonia does not prevail in conjunction with typhoid fever; the mortality from typhoid fever being greatest in October, November, December and April. It falls rapidly in January, and is lowest in June.

ON THE TREATMENT OF ACUTE PNEUMONIA.

By FRANCIS MINOT, M. D., Visiting Phys. to the Mass. Gen. Hosp., Boston.

The writer published a paper in the *Boston Med. and Surg. Jour.*, Feb. 21, 1884, in which he says:—For the sake of convenience I will divide the subject of the treatment of pneumonia into three sections. The first section relates to cases occurring in healthy persons, without distinction of age. The disease is almost never fatal, and rarely attacks both lungs. The initial stage of the fever occupies from twenty-four to forty-eight hours; the fastigium, during which the temperature does not rise above 104° F., usually lasts seven days, at the end of which time the temperature suddenly falls to the normal point, or a little below it, the crisis occupying one, two, or rarely three days. The ratio between the rate of the respiration and that of the pulse (normally one to four and a half) is not greater than one to three. There is but little appetite, and in young children usually none. An experience of many years in hospital and private practice has convinced me that these cases always do well without any special treatment, medicinal or dietetic. Sometimes an anodyne (Dover's powder or morphia) or a sedative (bromide or chloral) is useful to relieve pain or restlessness, or the solution of the acetate of ammonia may be given if the skin be hot and dry. As much water, not iced, should be allowed as the patient desires for drink. External applications are not needed, and all irritating epithems should be avoided, since counter-irritation only adds to the patient's suffering without modifying the self-limited process usually considered as "inflammation" of the lung. I am decidedly opposed to the application of poultices to the chest, especially "jacket" poultices. The fatigue and exposure caused by their frequent changing, and by their removal for the purpose of auscultation and percussion, are injurious; they are uncleanly, and possess no advantage, in my opinion, over a woollen jacket or waistcoat, or still better, one extemporized out of a sheet of wadding (not batting), to satisfy the prejudices of the patient's friends, who are too often, as in other cases, unconsciously his enemies. I would plead for little children, who like nothing so well as to be left undisturbed by officious ministrations, requiring no nourishment beyond a little milk, with water at discretion. When the crisis comes, food is readily taken.

If possible, the patient should lie on a single bed, so as to be easily handled by the nurse and physician. His clothing should be no heavier than is agreeable to him. Fresh air should be constantly admitted to the room, and a fire should be kept burning in the fireplace day and night, except when the weather is warm enough for open windows.

As to diet, the patient should not be urged to take more food than he likes. It is a common idea that he is in danger of sinking from exhaustion, and must be sustained by being constantly crammed with beef tea, milk, gruel, etc. In reality, very little food is necessary during the short period of the acute stage, and nature declines to digest more than a small quantity, frequently rejecting from the stomach what has been swallowed. In the case of children, particularly, I have observed that there is a strong objection to taking nourishment, and that when this instinct is respected the patient does perfectly well; as soon as the temperature falls, he asks for food. But I

find great difficulty in making parents and nurses believe this, owing to a natural application of the modern supporting treatment, so useful in typhoid fever and other exhausting diseases, to acute and transient affections.

The second class of cases of pneumonia include those occurring in healthy subjects who are debilitated from various causes, such as old age, overwork, previous illness, etc. They are free from cachexia, and under appropriate treatment the majority recover, but the prognosis is much more doubtful than in the preceding class. The disease is apt to extend from one lung to the other (though this is by no means always fatal), the temperature falls more gradually than in uncomplicated cases, and convalescence is often more prolonged. The treatment should not, in my opinion, differ materially from that just described, except that alcohol is usually required, and digitalis is necessary if there should be signs of pulmonary obstruction from failure of the heart's action. Champagne usually agrees very well, but any other stimulant, if preferred by the patient, will answer. Brandy and carbonate of ammonia must be given when there is much exhaustion.

The third class of cases comprise those which occur in cachectic individuals. The great majority of the patients die, whatever treatment be adopted. They are generally intemperate, or are victims of chronic renal disease, or they are tuberculous; but patients already prostrated by grave acute disease, such as typhoid fever, variola, bronchitis, etc., although otherwise previously healthy, when attacked by pneumonia may also be unable to resist the inter-current disease. The stage of hepatization is succeeded by purulent infiltration, and sometimes by gangrene, and death follows from asphyxia and exhaustion, usually with very high temperature, though sometimes without much elevation, as happened in two of the cases which I shall report. In these cases stimulants should be freely given; large doses of brandy are easily borne, and sometimes appear to save life. Nourishment in liquid form is also required, but seems less important than alcohol. External applications, those at least which require frequent changing, should be avoided, as the patient has no strength to spare.

CHRONIC NASAL CATARRH.

By G. M. LEFFERTS, M. D., Clin. Prof. of Laryngoscopy and Diseases of the Throat in the Coll. of Phys. and Surg., New York.

The following is from a Clin. Lecture published in the *Nashville Jour. Med.*:—Let your patient be convinced at once that you cannot cure him in so many days as the disease has existed for months or for years; that time is requisite, and if he will give you an opportunity to make regular systematic applications to his nasal catarrh, all such nasal catarrhs can be cured.

Now, what are you going to do for the patient? In the first place, cleanliness is absolutely essential. What earthly use is there to apply medicated solution, or a medicated powder, to the mucous membrane in the hope of medicating it, when it is covered up with a film or layer of mucus? The next moment the patient blows his nose, and out comes the application which you have made. You have done no good.

I say absolute cleanliness in this form of nasal catarrh, and in all forms of nasal catarrh, is absolutely essential. It is the foundation of the whole matter of treatment. It is the corner-stone. On the other hand, the nasal douche, as generally sold at the drug stores, is utterly useless. In other words, we know that it is not necessary to use these instruments in this class of cases as often as we did five or ten years ago. I hold that the use of a high pressure of water through the nose is unnecessary. In the chronic or fetid form of catarrh the patient is unable to blow out the plug of dried-up secretion, and it is absolutely necessary to do something which will aid in removing them, but in this simple form of chronic rhinitis I believe more harm is being done than good by the use of these instruments for washing out the nasal passages. The mucous membrane is inflamed, and if you pass over it a stream of water under pressure, you will keep up the state of chronic inflammation. But there are also cases of even simple chronic rhinitis where

it is necessary to wash out the passage. Make your examination with the nasal speculum anteriorly, and you will see there simply a reddened mucous membrane—no hypertrophy, no thickening, no plugging up or stoppage of the nasal passages. Look and see whether the nasal passages are clean. See whether there is thick mucus, and, if so, you must give the patient something that will remove it. But if he keeps the mucous membrane perfectly clear and free by blowing the nose, so that the medicine will reach it, then a cleansing apparatus is not required. If it is necessary to wash out the passages, then give the patient the necessary apparatus to do it with, and have him use it properly, and *only* as you direct.

What apparatus shall you recommend to your patients? Here is the best apparatus that I know of for the purpose. It is simply a spray, as you can readily see, and let me say at once that the nasal douche has long proved ineffectual in cleansing the nasal passages. The upper part of the nasal passages are very rarely washed by the ordinary nasal douche. The post-nasal syringe is extremely inconvenient for use. The majority of patients will not use them. The best means for cleansing the nasal passages is the coarse spray. This washes up the secretions, and you can accomplish with very little fluid in such an apparatus what it would take a great deal of fluid not to do with the nasal douche. In using the spray the patient must breathe through the mouth, and thus the whole nasal passage and vault of the pharynx are cut off from below. As long as the attention is kept on the breathing, the velum will remain up against the post-pharyngeal wall, and the fluid will not pass downward into the throat, and thus the spray will rush about in all directions where it is desired. Then let the patient lean forward and blow the nose gently, never hard. Never hard, I repeat, because the fluid may be blown up the Eustachian tube and cause inflammation there. You may use, as a cleansing solution, the following receipt:—

R. Acidi Carbolici, \mathfrak{D} i; Sodæ Bicarb.; Sodæ Biboratis; Aquæ Rosæ ss, 3i; Glycerinæ, \mathfrak{z} i; Aquæ, ad., Oi.

It may be necessary to use this prescription every day, or perhaps only twice a week. Remember that the cleansing process is only preparing the way for the use of your medicated application.

What will you use as an application? We must be careful not to do too much; not to cause an inflammation. I would lay it down as a cardinal rule that no cleansing, no application or medicament made to the nasal passage should ever cause the slightest amount of irritation. The patient should be made comfortable, and not uncomfortable by the application, for hours or the entire day. If the patient feel uncomfortable, it is a sign that harm has been done rather than good. Never make the application too strong, nor repeat it too often.

A second point, one that is to be remembered distinctly, is that the nose will not stand an application which the pharynx or the larynx would stand. In other words, the same strength solution which you could apply with immunity to the pharynx, or even to the larynx, would not be borne for one moment by the nasal mucous membrane. It would give the patient pain. Therefore, always commence with a light, mild application, studying to adapt the strength of the application to each particular case in hand.

Now, how shall you use them? By the spray. If you can get the spray behind the velum, and spray upward into the posterior nares, thence forward into the nasal passage, you can make a much more thorough application than you can possibly do by the anterior spray. But if you cannot get this, then use the anterior spray, driving it backward. I say that any one of the astringents in the pharmacopœia may be used, but the following is that which I use most. This is to be used, of course, after the nasal passages have been thoroughly cleansed, if cleansing is necessary:—

R. Iodine Cryst., gr. iv; Iodid. Potass., gr. x; Zinci Sulph. Carbolate; Zinci Iodid. ss., \mathfrak{D} i; Listerine, \mathfrak{z} viii. M. Ft. Lotio.

Now, what is Listerine? you will naturally ask. It is a preparation lately put upon the market, which makes a very pleasant menstrum for this mixture. It contains boracic acid, and has an odor of wintergreen, which is very pleasant and agreeable. It is antiseptic and disinfectant. It is entirely un-

irritating to the mucous membrane, and, containing boracic acid, it is healing in its properties.

The application of a powder sometimes will answer a very good purpose, if the secretions are *soft and fluid*, so that the powder will be absorbed by them. In cases where crusts form on the nasal mucous membrane, and the parts are dry, you should never use a powder. You can use alum, or tannic acid, and apply as you like.

Such, gentlemen, is the treatment according to the indications in ordinary chronic rhinitis and certain grades of hypertrophic nasal catarrh. I have told you that hypertrophic nasal catarrh exists when hypertrophy has taken place in the mucous membrane, and all the glands at the vault of the nasal pharynx are involved concomitantly. This hypertrophy blocks up more or less completely the inferior portion of the nasal passages, the hypertrophy taking place over the inferior turbinated bones; very rarely over the superior. Since there is also hypertrophy over the vault of the pharynx, it is better to make the application through the posterior nares rather than through the anterior nares alone.

But after a time there is no use of treating a case in this way. A patient comes to you and tells you that one or other of his nostrils is continually blocked up; you look into the nasal passages, and instead of finding it roomy on both sides, you find a large, irregular, thick mass. You find, perhaps, if you make an examination posteriorly, that there is a condition of the posterior part of the turbinated bone which almost completely blocks up the nasal passage. If in such cases you follow the above simple plan of treatment, you will throw so much time away. There is only one thing in such a case that you can do, and that is, to treat the case surgically, and by so treating it you will gain an immense amount of credit: you will get the credit of curing an extreme case of nasal catarrh.

Here is an operation which you can all do. It is to illuminate the nasal passage, and take a tuck, as it were, in the mucous membrane; and when a scar forms, it will draw down the membrane and hold it there. When operated upon in that way, the patient is rarely if ever again troubled in the same way. Take a small bit of cotton, and roll it about a cotton holder in this way, so that a small wad is made; dip this into fuming nitric acid, press out the excess of acid so that there shall be no danger of its dripping on the patient's lip or the passages; then dilate the nose widely, throw a strong pencil of light from the forehead mirror into the nasal cavity; now burn an ulcer on the swollen mucous membrane, so that it shall contract and draw the parts back into place; then make an application of an alkali, so as to neutralize the acid, and the operation is done. There has never, in my experience, been any return of the disease after a single application of the acid. The operation is painful only for a moment. Some prefer glacial acetic acid to nitric acid. The hypertrophied membrane over the *inferior* turbinated bone may be removed by passing what is called Jarvis' snare through the nasal passage into the pharyngeal space, bringing it down over the hypertrophied mucous membrane, encircling it and bringing it home. It is intended to cut the hypertrophied tissue very slowly, so as to avoid hæmorrhage.

Atrophic nasal catarrh I believe to be incurable. Do not tell such patients that you can cure them, but that you can relieve them by keeping the parts clean.

DISEASES OF THE ORGANS OF CIRCULATION.

RUPTURE OF THE HEART.

By C. C. WYCKOFF, M.D., Buffalo, N. Y.

The following case was reported in the *Buffalo Med. Jour.*, Feb., 1884:—I was called Nov. 30, 1883, to Mr. R., aged sixty-nine years. I found him pale, hands and feet cold, pulse 80, moderately full and regular. He had just come into the house after walking a short distance; complained of

some dull pain in the centre of the chest, a little above the region of the nipples. I found that walking brought on a very sharp pain in this locality. At that time he had never had pain in either arm, nor more on one side of the chest than the other. He said that he had suffered from these attacks of pain for a year or more, and that they increased in frequency and severity of late, but with the exception of the paroxysms of pain he had felt very well for the last few months, yet acknowledged that he had lost flesh. Until quite recently he had supposed that he was suffering from indigestion.

Dec. 1st. He went to his place of business and worked most of the day at book-keeping, but had some attacks of pain.

Dec. 2d. Remained in the house; had several severe paroxysms of pain.

On Dec. 3d. He had constant pain, with occasional severe paroxysms, in the upper part of the centre of the chest, which were only controlled by inhalation of chloroform.

Dec. 4th. The pain extended from the centre of the chest, each way, and down the arms and hands to the ends of the fingers. After the paroxysms of severe pain subsided, he complained of pain upon the left side of chest, but of more severe pain under right shoulder blade.

Subcutaneous injections of morphia, $\frac{1}{4}$ grain, were given, which would make him comfortable for about six hours. No notable change occurred in the patient's condition during the next four days.

Dec. 8th and 9th. Patient, on the whole, very comfortable. He had slight pain over the region of the heart, accompanied with hyperæsthesia of the surface of chest in the same region.

At about half-past five p. m., the 9th. That the patient's pulse was 96, regular, and heart sounds normal; appeared comparatively comfortable, but complained of an uncomfortable feeling on the left side of the chest. He had eaten some solid food about one o'clock, for the first time during his confinement, and with a relish. In about five minutes after I left him, his wife, sitting at the foot of the bed, heard what she described as a "gurgling sound." She spoke to him, but received no answer; she noticed that his eyes were turned up, but there was no movement in any portion of the body. She called a lady from an adjoining room, after which he only gasped once.

Autopsy: Made by Dr. Frederick Peterson, eighteen hours after death. Body well nourished and well formed; rigor mortis slight; head not examined. *Chest:* Lungs normal, with exception of slight emphysema and hypostatic congestion; pericardium contained about 250 cubic centimetres (or 8 oz.) of dark blood and coagula. There was a rupture of the heart from above downward, near the septum in the left ventricle, some six centimetres in length. The myocardium, to the naked eye, was extremely fatty, and under the microscope this fatty degeneration was corroborated, the fibres being almost destroyed. All about the place of rupture was deposited a thin layer of lymph upon the pericardium, showing that the rupture had been slowly going on for two or three days. There was no sign of endocarditis, nor of dissecting aneurism; no valvular lesions. The wall of the left ventricle seemed somewhat thinner at the point of rupture than elsewhere. Entangled in the edges of the ruptured spot, and protruding somewhat into the ventricular cavity, was a clot, dark and tough, of perhaps two or three days' existence. The coronary arteries were atheromatous to a great degree, and deforming endarteritis was also present in the aorta throughout its whole extent, and in the iliacs.

Abdomen: Spleen enlarged and hard, beginning cirrhosis of liver; right kidney weighed about 50 grammes; left was of normal size; both were hard, blue and granulous (chronic nephritis.)

Remarks: Rupture of the heart most often occurs when there is, together with great general or partial fatty degeneration, a stenosis of the aortic valves. Such a case as this, where no aortic stenosis exists, is much more rare.

RUPTURE OF THE HEART.

The following is from the *Weekly Med. Review* for March 15, 1884:—Mr. J. A. McKenzie reports a case in the *British Med. Jour.*, and speaking of ruptures of the heart in general, says:

"Leaving out altogether the question of direct wounds of the heart, I will speak only of what have been classified as traumatic and spontaneous ruptures (of the heart); and, in order to be able clearly to refer my case to its proper class, it will be necessary briefly to draw attention to the causes, exciting and predisposing, and to the mechanism by which both kinds of ruptures are produced.

In the normal state, the resistance of the walls of the cardiac cavities is evidently much superior to the tension of the blood-current; but this relation, essential to the efficiency of the circulation, and to the continuity of the heart-walls, may be disturbed in two ways.

1. Assuming the heart-walls to be sound, the tension of the blood-current is suddenly increased by some force acting from without, and the cardiac parietes, unable to withstand the shock, gives way. This is the mechanism of the production of traumatic ruptures, which are found in practice to have been caused by some great violence which imposes a sudden restraint upon the respiration and circulation. A kick from a horse upon the chest, the passing of a wagon-wheel over the body, the falling of a heavy log of wood upon the chest, are recorded instances of the means by which the force indicated above has been applied.

2. Before the introduction of the use of the microscope, it was believed that spontaneous rupture could take place without previous alteration or degeneration of the heart-walls; but at the present time the occurrence of spontaneous rupture unassociated with any degenerative change is denied by all authorities. The mechanism of the production of spontaneous rupture differs from that of traumatic in this. In traumatic rupture it is the heightened tension of the blood-current induced by external violence which leads to the solution of continuity; whereas, in spontaneous rupture, the tension of the current remains the same, but the heart-walls, enfeebled by fatty or other degenerative change (brown atrophy), do not offer the normal resistance to the flow of blood, and rupture may take place in consequence of some effort in which the muscles of respiration, etc., are concerned.

The predisposing causes are fatty degeneration of the heart, brown atrophy, disease of coronary arteries, syphilis, probably from the production of gummatous tumors in the heart substance, and myocarditis, with its subsequent softening.

The exciting causes were very marked in some of the recorded cases; whilst in others there appears to have been a total absence of any circumstance which could be put down as an exciting cause. I have found the following causes recorded:—Shock of a cold bath, fit of passion, efforts at defæcation, vomiting, epileptic fit, and, adding my own case, the effort put forth in swallowing a tough piece of meat.

The question of age seems to have an important bearing upon the causation, for I find that the mean age in a series of forty-eight observations was sixty-five years. The influence of sex does not appear to be very great, though as a matter of fact rupture has been ascertained to have occurred oftener in men than in women. The commonest seat of spontaneous rupture is the left ventricle; the right, upon which we generally find traumatic ruptures situated, appearing to be less liable to the spontaneous lesion.

Medico-legally, traumatic rupture following a blow, or supposed blow, upon the chest, might be of interest.

RUPTURE OF ONE OF THE AORTIC VALVES UNDER SEVERE MUSCULAR STRAIN.

In the proceedings of the *Philadelphia Path. Soc.*, March 13, 1884, Dr. John B. Roberts presented the following history of a specimen:

F. L., æt. 40, laborer, married, was admitted into the Episcopal Hospital under my care, February 21, 1884. His family history was good, and his own health, previous to his present indisposition, excellent. He denied ever having had syphilis or rheumatism.

His work compelled him to handle very heavy casks, and he had the reputation among his fellow workmen of being a particularly strong man, he being able to lift, unaided, 500 pounds. Three weeks before admission he was subjected to heavy strains in lifting, and although no history of sudden cardiac pain or palpitation could be elicited, he did admit a sense of tightness and some dyspnoea after his day's work. These symptoms gradually increased, and cough, accompanied by bronchitic expectoration, soon made its appearance. On admission the patient presented the appearance of a remarkably well developed and powerful man; he was suffering from great dyspnoea, which was much increased upon exertion. Percussion showed impaired resonance over both lungs, posteriorly, which was not altered by change of position, and auscultation revealed numerous moist rales. The apex beat of his heart, though perfectly regular in its rhythm, was extended in its area, and in the nipple line of the fourth interspace. Auscultation revealed a loud high-pitched musical murmur, systolic in time, with its point of greatest intensity over the upper part of the sternum; this was also audible over the whole chest. The peculiarity of this murmur was its decidedly vibratory character, like a torn sail flapping in the wind. The patient himself even noticed this.

With the diastole there was a second murmur, of much lower pitch, and not musical or vibratory in its character. This had its point of greatest intensity over the aortic cartilage. There was no apex murmur. Slight oedema of the legs and feet was present. Urine contained no albumen.

The patient was placed in bed and given digitalis, while counter-irritation and dry cups were applied to his chest posteriorly. Under this treatment he rapidly improved, and was soon considered well enough to be about the ward, the dyspnoea only showing itself after any unusual motion or excitement. The murmurs remained in much the same condition as on admission, though the intensity of the musical murmur had lessened.

On March 20th, in the evening, after a day as well as usual, he was seized with a severe attack of dyspnoea, with congestion of the lungs; he was considerably relieved by the application of dry cups. The next morning it was noticed that the oedema of the legs had increased; the dyspnoea was still present, to a slight degree, and the only change perceived in the cardiac signs was a lowering of the pitch of the musical murmur.

On the 22d the dyspnoea had increased again, and for the first time a low, long apex systolic murmur was detected; this was conveyed plainly into the axillary line. The musical murmur was of still lower pitch than before, and at the aortic cartilage the murmurs were much more plainly of a see-saw character.

Irregularity of the heart action occurred now for the first time. On the 23d, the area of cardiac dulness was as follows: In the horizontal line at height of nipple, the dulness began in the middle of the sternum, and extended to the left to a point half an inch beyond nipple. In the perpendicular line, drawn midway between the sternum and left nipple, the cardiac dulness began in the third interspace, and extended downward till lost in dulness of left lobe of liver. The area of dulness was not triangular, with the base downward.

Impaired resonance was now present over the whole chest, both anteriorly and posteriorly, and no cardiac sounds could be heard, on account of the great strides, and the violent movements of the chest. The apex beat could not be detected, for the same reason. After this the patient became more and more cyanotic and short of breath, and died on the same day, viz.: March 23, 1884.

The autopsy. Each pleural cavity contained several ounces of serum. The pericardium contained about one and a half ounces of serum, in which several shreds of lymph were discovered.

In both ventricles were large clots, partly chicken-fat, extending through the semi-lunar valves.

Weight of heart, after being emptied of clot and blood, one pound ten ounces.

The walls of the left ventricle were enormously hypertrophied, measuring seven-eighths of an inch at thickest part, the cavity appeared slightly dia-

tended, as did also the mitral orifice, which would allow the tips of three fingers to pass.

The right anterior leaflet of the aortic valves was torn at its posterior insertion into the aorta, thus leaving a free pointed end, about three-eighths of an inch long, to float in the blood current.

The left anterior leaflet presented two fenestrations, the posterior one the smaller, and near the insertion of valve in aorta at its upper margin, the anterior one the larger, and situated some distance down from the free border of valve.

The aorta, at its origin, was atheromatous in places, and slightly dilated, a patch existing at the point corresponding to the former insertion of the torn valves. The valves were normal, except for slight thickening. The coronary arteries were not atheromatous.

Remarks. In this case the atheroma of the point of insertion of the torn valve must have been the cause of the rupture during a heavy strain; should a fenestration have existed near the point of insertion, as exists in the left anterior leaflet, this would be a further reason for the rupture occurring at this point.

Frequently repeated great bodily exertion was the probable cause of the atheroma, as the man was a moderate drinker, and denied rheumatism and syphilis. A point of interest in the case was the peculiar character of the *systolic* aortic murmur, which was, as before mentioned, decidedly musical and vibratory.

As the patient did not suffer from sudden palpitation and dyspnoea at the probable time of the rupture, and as this murmur gradually diminished in pitch, while the regurgitant murmur became slightly more pronounced it is probable that the tear at first was slight, and gradually increased under the great strain thrown upon it, thus increasing the area of the loose edge to be thrown into vibration, necessarily lowering the note produced.

The *systolic* apex murmur heard one day before death was due to the occurrence of an incompetency of the mitral valves from over distension of this orifice.

DISEASES OF THE ORGANS OF DIGESTION.

STOMACHIC DYSPEPSIA.

By JOHN H. DUNCAN, M.D., Columbia, Mo.

From the *St. Louis Med. and Surg. Jour.*, April, 1884:—In a paper read before the Linton District Med. Soc., the author discusses the question of etiology of stomachic dyspepsia, and then says, concerning the symptoms and treatment, that the symptoms of dyspepsia are those referable to the stomach itself and those which are sympathetic. The symptoms due to a deficiency of gastric juice are a heaviness or load in the gastric region, dull, aching, grinding pain a short time after meals, drowsiness, inactivity and dull frontal headache at the same time. All these symptoms are simply due to the alimentary bolus remaining in the stomach and acting as a foreign body. To these may be added acid eructations, cardialgia and nausea. This eructation and pain at the cardiac orifice of the stomach is due simply to the acetic, butyric and other acid fermentations of the food as it lays in the stomach undigested. Let us remember, then, that acidity occurring an half hour or so after meals, is not due to an increase in the amount of gastric juice, for the two conditions are entirely different and require opposite treatment. Both of these acid conditions may be relieved by an alkali, but to remove their causes different remedies must be used.

The dyspeptic, however, has symptoms more aggravating to him than those local, which he refers to the heart and nervous system. It produces despondency, pseudo-cardiac disease, hysteria, and even insanity. They lose their buoyancy, are prone to look upon the dark side of everything, imagining impotency, phthisis pulmonalis, and in fact all the graver forms of

lesions. It is a grave affection and one which we cannot treat successfully unless we can get our patients to follow, not only our prescriptions, but our hygienic advice. All the stomachics that could be given would be of no value unless hygienic measures are attended to and therein is the difficulty.

Then the treatment of dyspepsia will resolve itself into the medicinal and the hygienic. If it be due to a deficiency in the quantity of gastric juice, and this deficiency be due to an insufficient amount of blood being sent to the peptic glands, I would earnestly advise perfect rest for an half hour or so before and after meals, and the use internally of stomachic tonics and digestive ferments. If it is accompanied by irritability of the stomach, bismuth subnitrate and hydrastia are valuable adjuncts.

I regard the quietude of mind and body, however, of as much, if not more importance than the drugs. Among the best stomachic tonics are pepsin, the simple bitters, for they contain neither astringent nor aromatic properties, they increase the flow of the juice simply by their bitterness. One of the best preparations of hydrastis is the fluid hydrastis, for it contains neither alcohol nor a resin, and is therefore non-irritating. In such conditions, I always advise the use of some sour wine, either just before or during the meal. It is of the greatest importance that the patient does not overload his stomach and consequently it would be far better that he, if it is convenient, does not confine himself to the regular three meals a day, but eat oftener and a smaller quantity, thus giving the stomach the time and opportunity to digest its contents. If the dyspepsia is due to an overabundance of gastric juice which can be ascertained by the acid eructations after digestion is completed, I would give the dilute phosphoric acid directly after meals. I give it upon the principle that acid applied directly to the mouth of a secreting gland diminishes its secretion. The pyrosis, cardialgia, and acid eructations of any form of dyspepsia, are relieved by alkalies. If the dyspepsia is due to the depraved condition of the blood, thus affecting the quality of the gastric juice, I would give blood tonics and in fact in any form tonics are advisable. The only treatment for dyspepsia due to alcoholism is the withdrawal of the alcohol and the use of such remedies as are used when there is simply indigestion due to a deficient quantity of blood to the peptic glands.

THE MECHANICAL TREATMENT OF DISEASES OF THE STOMACH.

By W. B. PLATT, M. D., F.R.C.S., Baltimore.

From the *Maryland Med. Jour.*, March 8, 1884:—Most physicians who have treated cases of chronic dyspepsia by any of the ordinary methods of medication and dieting, are impressed with the extreme uncertainty of obtaining any favorable result, even with the greatest care and the most tractable patients. Chronic dyspepsia is now, I believe, treated more successfully than ever before by the simple procedure of washing out the stomach. While the theory is no new one, its practical application is more recent. As the details may be new to some of the readers of the *Journal*, I will give them in full. The following things (besides a willing patient) are necessary:—

1st. A soft flexible red-rubber tube, with two large "eyes" in the distal end. It should be thirty inches long, and of the size marked 19 A. The tube is exactly like a very long and large Jacques catheter.

2d. A piece of straight glass tubing, two inches long, a little larger in diameter than the calibre of the rubber tube. This is simply to connect No. 1 with the following.

3d. A piece of ordinary flexible rubber tubing, about a yard long.

4th. A small tin or hard-rubber funnel, and about a quart of tepid water. The patient being seated, the tube is placed for a moment in warm water. The patient then takes a mouthful of water, and the red-rubber tube is passed into the pharynx and engaged in the œsophagus the instant the water is swallowed. It can of course be passed without the previous swallow of water. This, however, makes it easier. The tube is pushed onward slowly

and gently into the stomach. The patient retches a little at first, but after a few sittings usually takes in the tube without any trouble. The end of the tube passes quite to the pyloric end, and perhaps curls up in the stomach, and it is desirable that this should be the case, to insure thorough cleansing. The tube being passed nearly its entire length, until only an inch or two projects from the mouth, is now connected to the second rubber tube by means of the short straight glass tube. The funnel is now inserted into the free end of the rubber tube, which is raised to about the height of the patient's breast, and tepid pure water is slowly poured in from a pitcher, about a tumblerful at a time, until the patient complains of a slight sense of uneasiness or fullness in the epigastrium. The funnel end of the tube is now depressed a little below the level of the waist, and the fluid in the stomach allowed to siphon out into a bowl or basin. More water is then poured in and siphoned out as before, a second and third, or even a fourth time, until the washings issue quite clear, when the stomach tube is carefully withdrawn and the sitting is at an end. The only precautions necessary are: 1st. To have such a soft flexible rubber tube as has been mentioned, pass it with care not to pour in too much fluid at a time, nor raise the end of the tube too high, nor pour too fast. Always wash out a presumably empty stomach; the best time is in the morning, before any breakfast has been taken. The next best is about 10 a.m., the patient having taken only a little milk or beef tea and a dry cracker. Continue this treatment for a week or ten days to two or even three weeks. Often very marked improvement is seen after two or three days. After a week or two, every second day will suffice; later twice, then once a week; soon it may be given up. Experience has shown that *tepid pure water* is better to use than any medicated solutions whatever, unless in very unusual cases, when a little bicarbonate of soda, or rarely a few drops of Lugol's solution, in the last washing each day, may be added. The diet must be absolutely restricted, and is best limited to meat and milk. No medicine is necessary, and stimulants quite out of place. The advantages of the above treatment are:—

1st. It is very efficacious in many old or bad cases, securing to the stomach cleanliness, and nearly perfect rest for a season.

2d. It is simple, and any one with a little medical common sense can wash out a stomach properly. After a while intelligent patients can do it for themselves if they live too far away to have it conveniently done by the doctor, although it should, as a rule, be done by a physician.

3d. It is safe in ordinary hands and in an ordinary patient. I have never heard of any harm arising from its practice (that is, when the soft rubber tube was used).

DYSPEPSIA—FLATULENCE—GASTRALGIA.

By ROBERTS BARTHOLOW, M. D., LL. D., Prof. of Materia Medica and General Therapeutics, Jeff Med. Coll., Philadelphia.

From a lecture prepared for the *College and Clinical Record*, and published May 1, 1884:—The first case is that of a lady, forty-eight years of age, who has reached the climacteric, and is going through the menstrual difficulties belonging to that period. She has not had a show since last December (two months ago). That may have been the last appearance of the menses; but in regard to that there is, of course, a high degree of uncertainty.

She, however, does not present herself on account of any menstrual difficulty; rather for an obstinate form of indigestion, accompanied by intense pain (gastralgia). The pain is worse at night; last night, for instance, she spent the entire night in bringing up large quantities of gas, and the severe pain continued until seven o'clock this morning. She is still suffering considerably from acute pain in the left hypochondrium. The gas eructated has no odor. This is a very important point. There is a great difference between a case in which the eructations have no odor and one in which they have an offensive odor. The gas evolved from the stomach which is with-

out odor is, of course, carbonic acid. If the gases were derived from compounds containing sulphur, or from the fermentation of the fats, they would be offensive.

What can be its source? I think it may be positively affirmed that the mucous membrane of the stomach has no power to secrete gas. In seeking for the origin of the large quantity of gas in this case, we must eliminate the possibility of its being a secretion from the mucous membrane of the stomach, and also the decomposition of the fats and sulphur compounds which are present in many of the nitrogenous aliments. The foods capable of producing carbonic acid gas must be those which undergo the acetic fermentation. The source of the carbonic acid is the fermentation of the starchy and saccharine constituents of the food. The pain, in this case, is due to the gas greatly distending the stomach and stretching the nerve filaments distributed to the walls of the organ.

You are probably aware that, at the climacteric period, women are very liable to suffer from an excessive production of gas. There is certainly a relation between the nervous system and the evolution of gas. What is the nature of this relation cannot be satisfactorily made out, but it does, undoubtedly, exist.

Such being the mechanism of the production of gas, and such its connection with the period of life, what shall be the treatment? We note, with amazement, that this patient, whether or not under instructions we cannot say, has fallen upon a diet which she regards as a very low diet, and one particularly suited to her condition, but which is peculiarly unfit. The diet has consisted, in large part, of brown bread, oatmeal, and similar articles, meat being taken but once a day, and being regarded as rather injurious. There are few American adults who can eat oatmeal with impunity. With the Scotch it is the national food; but no people suffer more from dyspeptic disorders and skin eruptions than they do. It is apt to undergo ordinary fermentation. There are individuals who, exceptionally, can digest oatmeal; but such activity of the function of digestion is not common in this country. In a case like this it is particularly unsuitable. It should be abolished from the diet. Brown bread, again, is a very fermentescible substance, and contains a good deal of saccharine matter in addition to the starch, common molasses or brown sugar being used in its preparation. This ought also to be excluded.

What then? This patient should be placed on a diet free from fermentescible constituents. We should provide nothing which will contribute to the evolution of carbonic acid gas. A great deal could be accomplished by restricting the diet to the most elementary constituents. What is the elementary diet? It is that provided for the infant during the earliest period of life. It is milk. This patient should at once adopt an exclusively milk aliment; and in order to render its digestion more easy, the cream should be removed. It should be skimmed once. To insure its digestion, one-fourth the quantity of lime-water should be added, and it should be given every three hours, for this is about the time required for the digestion of milk. About a gill will be taken on each occasion. A patient may well subsist on milk, as it contains all the constituents necessary for the support of the human body; but living on an exclusive milk diet is not an enjoyable existence. After a few days there is a great desire for solid food; there is a feeling of weakness or "goneness," and there is usually constipation. Notwithstanding these disadvantages, the patient should be encouraged to persist in the use of the milk.

How long should it be continued? The proper rule is to continue the milk until the symptoms for which it has been prescribed disappear. That may be one, two, three, or even more, weeks.

What else should be done? After this course of milk, which should be exclusive, the patient taking no other aliment, and, in fact, no other drink, we shall add to the dietary such articles as are suited to her condition. Beef tea, made by mechanical process, and white of egg, could then be used. The yolk of egg should be avoided, as it contains fatty and other constituents which are difficult to digest.

What remedies should be given? It is necessary to give remedies which will relieve the gastralgia and at the same time prevent the fermentation of certain constituents of the food. Creasote is one of the best remedies for this purpose. It may be combined with bismuth and glycerine. It has been lately shown that glycerine has a decided power to prevent fermentation in the stomach, and thus prevent the subsequent distention due to the evolution of gas. I will prescribe the subcarbonate of bismuth, which is better than the subnitrite. The prescription will then be:—

R. Creasoti, ℥viij; Bismuthi subcarb., 3ij; Glycerini; Aquæ menthæ pip., aa, ʒj. M. Sig.—To be well shaken, and a teaspoonful given every three, four, five or six hours, according to the persistence of the pain.

This patient suffers from an extreme degree of constipation, and under the milk diet this symptom will be greatly increased. As a rule, in such a case it is better to relieve constipation by the rectal administration of remedies. Sometimes a saline does very well; a bottle of Congress or Pullna water, or a little Epsom salts, will be sufficient. Better than this, as I have just remarked, is an enema at night of half an ounce to an ounce of linseed oil, allowed to remain all night and followed in the morning by an enema of soap-suds. Instead of linseed oil, we may use an enema of castor oil suspended in mucilage.

Another remedy, which is very efficacious in these cases, and which may be given in the prescription already mentioned, or separately, is arsenic. It has been found that in gastralgia and abnormal fermentation, Fowler's solution of arsenic is exceedingly useful. It should be given in small doses, as one or two drops three or four times a day.

DISSENTERY.

By E. T. DORLAND, M. D., of Buffalo, N. Y.

The following is from the *Buffalo Med. and Surg. Jour.*, Feb., 1884:—It is of vital importance, when called to a case of supposed dysentery, to ascertain whether it be of the diarrhœal form, indicated by more or less fecal matter in the stools, an absence of any great constitutional disturbance, a preceding diarrhœa, etc., in which case very little treatment is usually required. Rest, a proper attention to the diet, which should consist mainly of milk, milk porridge, rice, mutton broth and the like, a free use of alkalies, some simple diarrhœa mixture, with sufficient anodynes to relieve pain and control the peristaltic action of the bowels, makes up, as a rule, the sum total of treatment necessary for this form of the disease. But when called to a case of real typical dysentery, as indicated by stools containing little or no fecal matter, high febrile excitement, much tenderness on pressure over the bowels, tormina, tenesmus, etc., our course of treatment was as follows: First a full dose of calomel, followed in a few hours by a dose of castor oil to empty the intestinal canal of all undigested food and fecal matter, immediately after which we put the patient upon full doses of opium, and from that time on it was opium first, last, and all the time, the advocates of the opium plan of treatment believing it as absurd to claim that cathartics promote the secretion of the intestinal glands in the inflamed condition of dysentery, as that irritants applied to inflamed mammae promote the secretion of milk. On the contrary, we maintain that opium, beside relieving pain, procuring rest and controlling the peristaltic action of the bowels, really promotes secretion by diminishing the morbid sensibility of the bowels to the matters they contain, and thereby greatly relieving the spasmodic constriction of the vessels involved in the inflammatory action. But to return: the opiates, as the sheet-anchor of treatment, we continued as long as there was any considerable inflammatory action remaining, and almost invariably with the most happy results. Auxiliary measures, such as hot fomentations and turpentine stupes to the bowels, alkaline drinks, opium suppositories to relieve tenesmus, etc., were of course made use of whenever rationally indicated.

I claim it to be as logical to keep the system under the influence of opium in acute dysentery, as we all, I believe, concede it to be in enteritis.

From my own experience, and from the knowledge derived by observation of the experience of others, I fully believe the plan so highly lauded by some physicians, of giving frequently, in dysentery, cathartic doses of calomel, castor oil, magnesia, rhubarb, rochelle salts, etc., to be uncalled for, injurious and cruel, and therefore decidedly bad practice.

The rationale I present to you in conclusion, and as a "summing up of the case."

The purgative treatment is irrational: First, because it is diametrically opposite to that cardinal law of both medicine and surgery, derived from the example of nature herself, that injured and inflamed parts be kept in the most passive and quiescent state, and that the exercise of their functions be diminished as much as possible. Witness the complete rest enjoined in sprain of the ankle, or inflammation of the knee-joint, the prohibition of the use of the eye in ophthalmia, the suppression of noise and the exclusion of light in phrenitis, the forbiddance of any article making requisition on the digestive powers of the stomach in gastritis, etc.

Secondly, because it is directly opposed to another law in medicine and surgery, which forbids the application of irritants to an already irritated surface. To this rule there exist only rare exceptions, which do not apply to the question under consideration.

Thirdly, because the administration of purgatives is very apt to have the effect, especially in persons of nervous temperament and weak digestive organs, to unsettle and nauseate the stomach and render it incapable of the retention of food. In compelling the patient to unnecessary stools, it must also contribute to harmful exhaustion and suffering.

And fourthly and lastly, because experience has pretty satisfactorily proved that those hardened fæces termed scybalæ, which were formally supposed to exist in the bowels in nearly all cases of dysentery, and to dislodge which purgatives were originally employed, are found only in a few cases, and, when existing, their unaided and unprovoked passage is less disturbing and harmful than the action of cathartics.

RECTAL ULCERS.

By THOS. HENDERSON, M.D., Denver, Col.

From the *Therapeutic Gazette*, April, 1884:—It is not an uncommon thing for patients who have any obscure trouble in the pelvic region, to believe that the source of their pains is in their bladder, or, if the patient is a female, in some one or all of her generative organs. They may have, as a symptom, frequent urination, and more or less scalding at the time of passing water, yet a careful examination of the urine and urinary organs will not admit of a diagnosis sufficiently positive to account for all the aches and pains endured. It is in such cases, even if there is no prominent symptom to attract attention, that the rectum ought to be examined, for there the cause of much distress will be discovered. The symptoms are sympathetic.

The rectum is the seat of an ulcer, which is the cause of various trains of symptoms, according to its location, size, and sensitiveness. There is always an irregular condition of the bowels, either a chronic constipation, more or less severe, or a chronic diarrhœa. If there is a mucous discharge from the bowels soon after rising in the morning, it is a strong symptom of an ulcer. It is a rare condition also to see flabby tabs around the anus, hæmorrhoids, fissures, fistulæ-in-ano, without finding a chronic ulcer above them. Pain in the lumbar regions is a prominent symptom with many. Sometimes there are darting pains down the limbs, extending as low as the calves of the legs. When these symptoms exist, patients are unable to exercise vigorously or walk any great distance without giving out in the "small of the back." Frequently the bowels will be sensitive to the touch, and more or less bloating exist. In connection with these symptoms a female may have ovaritis,

dependent upon an ulcer. At least such cases have been under my care, and I have only treated the ulcer. As the latter improved the former disappeared. Cases are not wanting where the base of the brain has been the seat of the reflex action of a rectal ulcer. The instant the ulcer was touched pain was felt in the brain. The urinary organs are particularly liable to be thus affected. [The writer then gives illustrative cases].

In the treatment of an ulcer cleanliness is very important. Nothing can be done while the bowels are constipated. The rectum must be emptied every day and the ulcer either wiped out with a pledget of cotton or washed with a suitable injection.

Where the edges of an ulcer are congested and inflamed, it (the ulcer) ought to be treated every day until the congested condition has passed away; then the time between treatments can be lengthened.

The length of time required for treatment is governed by various circumstances: The condition of the ulcer, the ability of a patient to respond to treatment and his faithfulness in carrying out his part of the work. I believe also that an ulcer is frequently the cause or parent of many rectal complaints, and the failure to make a permanent cure of cases of fistulæ-in-ano and hemorrhoids can be accounted for on the theory that the source of them had not been removed.

One of the essential things required in treating rectal diseases, is a suitable speculum, one that can be used every day, if necessary, without discomfort to a patient, and yet large enough to enable an operator to examine every portion of the rectum within its reach, and through which the parts can be cleansed and medication applied. After a long and continued practice of treating rectal ulcers and observing the large number of troublesome symptoms accompanying them, I am led to the belief that members of the profession are not paying the attention to diseases of the rectum they ought to; for the ulcers are the source of much discomfort, extending from the base of the brain to the coccyx, and the discomfort is only relieved by a careful and judicious treatment of the ulcers. As rectal alimentation has proved to be of so much benefit in thousands of cases, so I believe rectal medication will meet many indications not amenable to other plans of treatment.

DISEASES OF THE URINARY ORGANS.

THE PROGNOSIS IN CHRONIC BRIGHT'S DISEASE.

By EDWARD T. BRUN, M.D., Demonstrator of Clin. Med., Univ. of Penn., etc.

The following is from the *Philadelphia Med. Times*, April 5, 1884:—Probably the prognosis of chronic interstitial nephritis is especially involved in the question of the cardiac nutrition, since all observers are agreed that failure of cardiac force may suddenly precipitate an attack of uræmia. But in chronic forms of nephritis with associated and parenchymatous changes, or in chronic parenchymatous nephritis, even waving the question whether there is, in all chronic cases of long duration, a tendency to contracted kidney, the condition of the heart will prove the determining factor in diagnosis. The chemical quantitative examination of the urine for urea is also important, but a compensative activity of the circulation will obviate the imperfect renal secretion, and the cardiac nutrition is sensitive to prolonged reduction in the activity of renal circulation.

The microscopical examination of the urine for casts as evidences of renal alterations is very significant, but the deductions from these are obviously most correct when considered together with the cardiac condition. In this way, in interstitial nephritis, the duration of the disease may be estimated, and mistakes due to inferences drawn from the presence of casts can be avoided, since recovery from renal disease has occurred even when casts

indicative of the second stage of parenchymatous fatty degeneration have been found. The activity of the digestive system is an element in the prognosis, but this also depends on the efficiency of the mesenteric circulation. The stage and date of the disease also bear close relation to the prognosis, and should be studied in connection with the cardiac nutrition.

While the foregoing remarks must be regarded as general rules, remember that prolonged insufficient cutaneous activity, or acute exacerbations of renal mischief, or intercurrent processes in other organs, may at any moment place a period to the life of a patient. Therefore a prognosis on any form of chronic Bright's diseases should always include an "other things being equal."

The symptoms and complications calculated to alarm one in any form of Bright's diseases are suppression or diminution of the urine, nervous phenomena, unmanageable dropsy, chronic manifestations of uræmia, acute inflammation, and hemorrhages. Albuminuric retinitis is always a serious symptom, occurring most frequently in cirrhotic forms of nephritis. In the acute form of Bright's disease no prognosis of any value can be formed from the eye-symptoms, though severe.

I would add that an exception to the commonly serious character of albuminuric retinitis should be made in favor of pregnant women.

Parenchymatous nephritis is often quickly dangerous, but if a case survive the initial periods the prognosis in the early stages is less unfavorable to ultimate recovery than in the cirrhotic form. In the second stage, representing the stage of fatty transformation, recovery, though rare, is possible. The patient may survive for a long period, although at any time death may ensue from sudden or gradual increase of the symptoms, or from intercurrent affections. In the third stage (*i. e.*, that of atrophy), the deterioration of general health renders the prognosis most unfavorable, yet even in this stage, if the cardiac nutrition be good and suitable hygienic and therapeutic conditions be fulfilled, life may still be prolonged for considerable periods. In the forms of renal disease cirrhotic from the outset, the progress of the disease is slow and insidious and the fatal result long deferred, yet the disease may be considerably advanced before it is detected, and the cardiac and arterial lesions materially assist us in approximating the stage of the process and its duration.

In conclusion, let me notice the sometimes favorable prognosis and short duration of attacks of subacute catarrhal nephritis occurring independently of scarlet fever in children. Recent publications in the English journals have called attention to such cases. They occur most often in children who suffer from enlarged tonsils and catarrhal tendencies. In such cases the ordinary symptoms of reduced urinary secretion, dropsy, etc., prevail; the urine is albuminous, and contains casts, without blood. All the symptoms may vanish in two to four weeks, and convalescence ensue, if appropriate treatment be instituted and favorable hygienic conditions exist.

CHRONIC BRIGHT'S DISEASE.

Dr. WM. PEPPER in a clinical lecture published in the *Philadelphia Med. Times*, April 19, 1884, says:—"As you are aware, there are three principal forms of chronic organic disease of the kidney: 1, the contracted, granular kidney, dependent upon interstitial inflammation, hardening, and contraction; 2, the large white kidney, dependent upon chronic tubular inflammation; and, 3, the amyloid kidney, in which the renal capillaries and the basement-membrane of the tubules have their proper nitrogenous contents substituted by a peculiar starchy or amyloid material. This latter form is met with in chronic syphilis, chronic phthisis, in old suppurative diseases, in long-standing abscess, bone-disease, and ulceration. In both the chronic contracted kidney and in the amyloid kidney the urine is copious, varying from sixty to eighty or more ounces per day. In the contracted kidney the specific gravity is usually low. In amyloid disease it is higher,—almost normal. In contracted kidney the amount of albumen is small, while in amyloid disease it is

large. In contracted kidney the tube-casts are small hyaline; in amyloid disease there are numerous large hyaline casts. In contracted kidney dropsy appears late, and is not very marked until the closing stages; in amyloid disease it is early, extensive, and extreme. In contracted kidney the associated lesions are hypertrophy of the heart, hemorrhages into the retina, intercurrent attacks of pleurisy and pulmonary congestion, convulsions, and coma. In amyloid disease the associated changes are hypertrophy of the liver and spleen, with evidences of long-standing suppurative disease, with less tendency to affections of the heart, and less tendency to uræmic attacks."

ANATOMICAL INVESTIGATIONS ON INFLAMMATION OF THE KIDNEY AND MORBUS BRIGHTII.

The following is from the *Boston Med. and Surg. Jour.*:—Dunin endeavors to explain the cause of Bright's disease and its relation to nephritis in general. There are two general questions which he considers must be answered first in order to approach the subject intelligently.

(1.) Are all forms of nephritis one and the same malady?

(2.) Where is the starting-point of Bright's disease; is it to be sought in degeneration of the epithelium or in the vessels or connective tissue?

In answering the first question attention is to be directed to the chronic forms. These have been divided into two classes: (1.) the so-called white kidney (nephritis parynchymatosa); (2.) the granular kidney (nephritis interstitialis). A third form, the small white kidney, is considered as furnishing an intermediate stage between these two both in clinical and anatomical relations.

His own studies have led him to the conclusions already reached by Weigert, that the histological changes in all forms of Bright's disease are always of the same character, and that it is only their combination which differs. These changes are (1) swelling, destruction, and proliferation (?) of the epithelium; (2) infiltration and new formation of connective tissue; (3) degeneration of the glomeruli; (4) thickening of the vascular walls. Even the amyloid kidney form no exception to this, as in it all these appearances have been seen, and the amyloid degeneration is simply added to this.

First, of the forms which follow the acute infectious diseases: All authors are agreed that that which follows scarlet fever is to be regarded as a typical form of acute Bright's, and is to be placed in the closest relation to it. Of the other contagious diseases the kidneys of recurrent typhus are often to be placed in the same category, while those of typhus abdominalis are seldom so associated.

In regard to the identity of all nephritis and Bright's disease: A comparison is made between the large kidney with rather a finely granular look, which is related to the kidney of chronic passive congestion, and the so-called granular kidney of Bright's disease. The clinical picture is found to be different, and in the first case the microscope shows destruction of the epithelium, collapse of the tubules, and an insignificant hyperplasia of the connective tissue. According to him the lesions are brought about in the following manner: The epithelium is first attacked in consequence of an insufficient supply of blood (venous stasis, atheroma of the arteries, old age). This slowly proceeds, and the cells are floated off by the water, the lumen of the tubes remain patent for a time, and then finally the walls collapse. In this way an apparent increase of connective tissue results. The vessels become dilated, and the organ presents the appearance of an angioma. In this there is no evidence of an inflammatory action, and therefore it must evidently be excluded from the class of Bright's disease.

In Bright's disease, on the contrary, he considers that all the structural constituents of the kidneys are affected at the same time, and it should justly be called a "diffuse nephritis."

Since it is of this nature it is inflammatory, and its commencement is to be sought in changes in the vessels followed by an emigration of white blood corpuscles into the glomeruli, the tubules, and the interstitial spaces. But

how does the epithelium behave in all this? As is well known, its degeneration is constant, but in the greater number of cases this is retrogressive, and is to be referred to the same casual working that lies at the foundation of the inflammation; but, on the other hand, it is more frequently to be regarded as resulting from disturbed nutrition. So long as the whole process is confined to the disturbed nutrition of the epithelium simply there can be no talk of Bright's disease, and it is only when the addition of inflammatory disturbances of the vessels has taken place that true Bright's can be said to have developed.—*Virchow's Archiv. Bd. xciii, s. 286.*

NITRO-GLYCERINE AND THE CHLORIDE OF GOLD AND SODIUM IN THE TREATMENT OF ALBUMINURIA.

By ROBERTS BARTHOLOW, M.D., LL.D.

From the proceedings of the *Philadelphia Co. Med. Soc.*:—

How and when are these remedies to be used?

Nitro-glycerine is now administered in the form of the centesimal solution—1 minim of the pure drug to 100 minims of alcohol. The initial dose of this one per cent. solution is one minim, which should be increased until the very characteristic physiological effects are produced. The susceptibility to the action of nitro-glycerine varies greatly, and hence the dose cannot be stated in advance. It is necessary to produce some obvious effect. To maintain the same level of action, a slight increase in the dose may be required from time to time. As the effect is not lasting, the interval between the doses should not exceed three or four hours.

The administration of nitro-glycerine should begin in acute cases immediately after the subsidence of the acute symptoms. It is indicated in chronic cases at all periods, but is more especially useful if given before hypertrophy of the muscular layer of the arterioles has taken place. When it acts favorably, the amount of albumen in the urine steadily diminishes. The mechanism of its action consists in the lowering of the pressure in the renal vessels. How far any curative effect proceeds from action of this remedy on the sympathetic system, remains to be determined.

Chloride of gold and sodium is indicated in the subacute and chronic cases, especially the latter. The earlier it is given the better, if structural changes are to be prevented or arrested. The good effects to be expected from it will depend necessarily on the extent of the damage already inflicted on the kidneys.

The usual dose is $\frac{1}{2}$ grain, twice a day, but this may be much increased, if necessary. At the outset, $\frac{1}{8}$ grain may be given; in a week the dose should be lowered to $\frac{1}{16}$ grain, and after a month the regular dose of $\frac{1}{8}$ grain should be steadily pursued, with occasional intermissions. Indigestion, gastralgia and colic pains, nausea or diarrhoea, are occasionally caused by it; and if so, the quantity administered must be reduced. It is usually borne without any discomfort, but after prolonged administration, salivation, weakness, emaciation, trembling, and other nervous phenomena, may possibly occur.

The treatment of albuminuria by nitro-glycerine and the chloride of gold and sodium does not necessitate the exclusion of other means—hygienic climatic, or dietetic. These remedies should, however, be given uncombined, at different hours, and their actions should not be hindered or obscured by the effects of other agents given with like purpose. To this general statement there may be two exceptions: With nitro-glycerine, amyl nitrite or sodium nitrite may be given; with the gold and sodium chloride, corrosive sublimate may be combined. If doubts may be felt in regard to the propriety of depending on the utility of these remedies, they need not be long experienced, for if no good effects are observed in two weeks, they may then be discontinued.

SURGERY.

OPERATIONS, APPLIANCES, DRESSINGS, ETC.

MORPHIA AND ATROPIA BY HYPODERMIC INJECTION PREVIOUS TO THE ADMINISTRATION OF ANÆSTHETICS.

By J. C. REEVE, M.D., Dayton, Ohio.

The number of this journal (*Jour. Amer. Med. Ass'n*), March 1, 1884, for February 9, contains an article upon the above subject by Dr. Aubert, from the proceedings of the *Société de Biologie*, in which the modification of the action of anæsthetics by preceding injection of narcotics, seems to be presented as something entirely new. The fact is, that this mode of modifying anæsthesia is more than twenty years old. It had its clinical birth under Nussbaum in 1863, and owes its establishment upon a scientific basis to Bernard shortly afterward. Its merits have been several times presented and urged upon the profession of this country by myself.

Clinically, the experience in favor of the method is quite large. My own extends far beyond that of Dr. Aubert, sixty cases. I have not in a single case found occasion to regret having resorted to it, nor seen a single bad symptom which could be attributed to it.

Safety.—This rests on the sound basis of the physiological action of medicines and on clinical experience. When it comes to speak in relative terms of the *greater* safety of this method, of course the vast experience upon which to base such a claim is wanting. There is one clinical point, however, to be urged in favor of this method, in regard to which there cannot be, I think, any question. It is its efficiency in lessening emotional excitement. No more powerful means are at our command for allaying undue apprehension and its consequences than the benumbing and soothing influence of morphia.

Rapidity of producing anæsthesia, and smaller quantity of anæsthetic required.—I would rest a decision upon them to half a dozen observations by any candid person.

Absolute quiet of the patient.—This is a point alone sufficient to make the method worthy the attention of the operating surgeon. This feature is of especial value in all prolonged operations. Under this method the transition from profound to partial anæsthesia is not so rapid, and the patient does not so readily again begin to feel pain and move about.

Upon two points my experience is not in accord with that of Dr. Aubert. I do not find that there is *absence* of vomiting upon awakening. I certainly believe that disagreeable symptom to be less in frequency and degree, but such a point is difficult to prove. Decidedly, the patient does not awaken more readily after this method; the reverse is the truth, and I believe it to be an additional point in favor of the plan.

The amount generally used by me is seven to twelve minims of a solution of sixteen grains of morphia and one-half grain of atropia to the ounce of water. For very prolonged and severe operations the amount of atropia may be increased to advantage. Experience has taught me that *time* is an element

of importance. Fifteen to twenty minutes should elapse between the administration of the hypodermic injection and the beginning of the administration of the anæsthetic. When the one immediately or soon precedes the other, the dangerous stage of the excitement is *not* diminished.

All my experience has been with the mixed vapors of alcohol, chloroform and ether, known as the "A C E" mixture: 1 part alcohol, 2 parts chloroform, 3 parts ether, by measure.

ANÆSTHESIA BY THE RECTAL METHOD.

M. DANIEL MOLLIÈRE, in the *Lyon Médical*, has described a very novel method of administering ether, and claims for it advantages which, if sustained by further trials, will in a very literal sense revolutionize the usual procedure.

He writes that while showing a Danish physician, Dr. Axel Yversen, through the wards of the Hôtel-Dieu at Lyons, that gentleman asked how he administered ether, by inhalation or by the rectum! Further conversation elicited the fact that in Dr. Yversen's experience anæsthesia could be advantageously induced by giving the anæsthetic in the reverse of the ordinary way.

Next day Dr. Mollière began to experiment. A young woman, twenty years of age, was to be operated upon for a tumor of the parotid. The ether was injected into the rectum by means of a Richardson atomizer. Absorption took place very slowly, but at the end of ten minutes the patient became incoherent, and could taste the ether in the mouth. A few drops were then placed near her nose, and upon inhaling them she fell at once into a profound sleep. The operation was then performed without any trouble. The patient had taken some soup just before the operation, and she vomited it upon recovering from the anæsthesia. Apart from this, she felt no disturbance.

In a second case the ether was given in a different manner. An india-rubber tube of the size of the finger was introduced into rectum, and connected with a flask of ether which was itself placed in a jar containing water heated to a temperature of 50° C. (122° F.) The ether entered the tube boiling. In five minutes the patient became incoherent; a few whiffs of ether then produced complete anæsthesia. The operation was for the removal of a tumor from the antrum of Highmore, and was much facilitated by the fact that no ether cone had to be kept over the face. The patient came out from the anæsthesia without any trouble and suffered no nausea.

M. Mollière thinks that anæsthesia by the rectal method is destined to be of great service in many cases. It suppresses the period of excitation; it permits one to regulate the dosage very exactly; it reduces to a minimum the amount of ether needed; it allows the surgeon opportunity to operate upon the face; it is a more agreeable method to those patients to whom the odor of ether is nauseating and objectionable.

Some better method of injecting the ether may be devised, but at present M. Mollière thinks that the introduction of a flexible tube and connecting it with a flask of ether placed in hot water, at a temperature of 40° C. (104° F.) to 60° C. (140° F.), is the best method.—*Ed. Medical Record*, April 26, 1884:

ETHERIZATION BY THE RECTUM.

From an editorial in the *Boston Med. and Surg. Jour.*, May 8, 1884:—The administration of ether by the rectum has attracted much attention in Boston as well as in other places during the past fortnight. The advantages of such a mode of administration in certain cases would evidently be very great.

In general, the amount of ether necessary has been small; about two ounces has ordinarily proved sufficient to induce insensibility, though much larger quantities have been administered, and unpleasant symptoms have followed even from that small amount. From New York comes the account of a

case, in which two ounces were administered to a child of eight months, in bloody discharges and death occurred during the following night.

The present experience has been sufficient to formulate the following rules, which should guide any one desirous of using the new method, until further experience modifies them:—(1). Rectal etherization should be reserved for cases in which there is some special objection to the administration by inhalation. (2). It should be made use of only with robust adults. (3). In general two ounces should be regarded as a sufficient dose; that dose should be exceeded only with great caution. (4). When insensibility is fairly established the administration should be stopped.

RECTAL ETHERIZATION.

From an Editorial *N. Y. Med. Jour.*, May 24, 1884:—Anæsthetization with ether introduced by way of the rectum, lately proposed by M. Mollière, of Lyons, has now been tried in a number of cases in New York, with such results that, while they point to certain features of excellence, seem to call for caution.

It is no more than fair to say that the method promises very substantial benefits. These benefits are, in the inverse order of their importance, the saving of ether and the avoidance of the preliminary strangling and struggling in the production of anæsthetization by the inhalation of ether. In regard to the saving of ether, we do not understand that those who favor the method profess that less of the drug is actually introduced into the system, but only that none of what is used is lost. If this statement is correct, the advantage of the practice, so far as the consumption of ether is concerned, is a paltry matter of economy, not for an instant to be weighed against any danger which may attend it. The other good feature alleged for the method seems well attested; in almost all instances the patient has gradually and with reasonable promptness, fallen into a state resembling natural sleep, preceded by little if any exhilaration. Curiously enough, in one instance that has come to our knowledge, the rectal administration failed utterly. There seems to be an impression that there is apt to be less nausea after the patient has emerged from the anæsthesia than when the inhalation method has been employed. If this should prove to be the case, the new practice must certainly be credited with an additional advantage of no slight importance.

Unfortunately, the method is not without its dangers, as shown by the fact that it has given rise to at least two deaths during the few weeks that it has been on trial in New York. This should not lead to its hasty condemnation, but most assuredly it should emphasize the caution with which it is to be employed, as well as the necessity of so improving the technics of the procedure as to draw from it as many as possible of its advantages with the utmost attainable avoidance of its dangers. The two deaths to which we have referred are attributed to intestinal irritation, and it is worthy of remark that in many instances that have not proved fatal such irritation has been observed.

It is to be noted that some of the gentlemen who have tried the method have witnessed intestinal irritation in almost all their patients, while others have found it quite the exception. The inference is drawn that in the one case sufficient precautions were not taken to guard against the injection of liquid ether into the rectum. It is to be hoped that careful attention to matters of detail will render the method practically as free from danger as that by inhalation. Until that state of things is assured, we must insist on the need of great discrimination in the employment of anæsthetization by the rectum.

SEVEN COMMON SURGICAL FOLLIES.

By JOHN B. ROBERTS, M.D., Surgeon to St. Mary's Hospital, Philadelphia.

We take the following from *The Polyclinic*, February 15, 1884:—If any one of you will watch with careful scrutiny any series of operations done for various lesions and by various surgeons, you will have frequent opportunity

of observing the commission of the seven follies that I shall describe. Sometimes you will see a single operator committing nearly every one of them in as many minutes. I call them the ether folly, the incision folly, the sponge folly, the styptic folly, the suture folly, the adhesive plaster folly and the dose folly.

The ether folly is almost universal. Often have I heard physicians say of a patient, "He couldn't be etherized; I had to give chloroform." Now, the fault was not with the patient, but with the doctor. I doubt there being an individual or animal in the world that cannot be anesthetized with ether properly administered. It must, however, be given in large quantity and with little air. If given in small quantity, and with much air, as chloroform should be administered, the excitement stage will only be overcome with much difficulty and loss of time. When the napkin saturated with ether has once been placed over the patient's nose and mouth it should not be removed. To remove the napkin entirely from the face, while the stoppel is being taken from the bottle, and the ether slowly poured out, is too ridiculous for credence. There is one symptom, however, that demands removal of the ether towel for a moment. It is the blue and congested face, due to spasm of the respiratory muscles, that often occurs soon after the commencement of etherization; when this is seen, the patient should be given an opportunity to take *one* deep inspiration of air.

The incision folly is not quite as common as the one just discussed. Still it is often exhibited in both hospital and private operating. It consists in making a cramped cutaneous incision, instead of one sufficiently large to fully display the tissues needing examination. A cut of the skin three inches long is no more dangerous in itself than one two inches long. Indeed, in many cases it is less so, because the surgeon, having sufficient room to see, does not tear and stretch the underlying tissues so rudely; hence less suppuration occurs and more rapid union is possible.

What I term the sponge folly is the habit of employing sponges for absorbing blood from wounds, when napkins or towels are always obtainable, and are far less liable to introduce septic material into the wound. Sponges, while too expensive to be thrown away after each operation, are cleaned with great difficulty. Hence I prefer towels, and if I do an operation at a patient's house, always use clean towels obtained there.

The styptic folly is the commonest and most ridiculous of the surgical traditions of the present day. When occlusion of each bleeding vessel by ligation, torsion, or acupressure is not required (and it seldom is for arteries smaller than the facial), moderate direct pressure is all that is demanded. Styptics should not be used, because not needed, and because, in many instances, they impede union of the wound. After an operation let the surgeon tie the large vessels, wipe away the clots, put in the sutures, apply moderate equable pressure by compress and bandage, and he will have no need of hot water, alum, tannin, or that vilest of all styptics, Monsel's solution. Many styptics, though not all, delay union by irritating the cut surfaces and inducing suppuration.

The suture folly next claims attention. I do not refer to the erroneous opinion, long held, that sutures should not be used in the scalp. This tradition has been disproved so often that few surgeons would now hesitate to use sutures as freely in the scalp as elsewhere. What I call the suture folly is the adherence of many to the theory that silver wire only should be employed for suturing purposes. Nothing could be more fallacious. Do we use silver hair-lip or acupressure pins? Why, then, employ silver sutures, when iron wire is stronger and far cheaper? When large and gaping wounds require the sutures to stand much tension, silver wire, if used, must be very thick. Iron wire of much smaller diameter, and therefore much more flexible, gives an equally strong suture, and in addition to being better adapted to the purpose, is much cheaper.

The adhesive plaster folly is common. You all have seen stumps, after amputation, enveloped more or less completely in strips of adhesive plaster placed between the sutures. Of what use are they? They obstruct free drainage, become softened and loosened by the pus, if there is much dis-

charge, give more or less pain when removed, and do no good. If the flaps are properly made, the sutures correctly applied, and the stump evenly and neatly bandaged, the adhesive plaster becomes useless, and is merely a disadvantage to the patient's comfort and recovery. Adhesive plaster has little or no value in surgery, except for making extension, and preventing motion in cases of fracture.

I believe that operative surgery will be greatly improved as a scientific entity, when sponges, styptics, silver wire and adhesive plaster are discarded in the dressing of wounds. If you have these articles for this purpose, in your offices, I pray you to throw them away. They are needless, worthless, and detrimental.

The dose folly is the last topic I shall discuss with you this evening. I should, perhaps, term it *small* dose folly, for I refer to the practice of administering insufficient doses of medicine. This fault pertains, of course, to medical as well as to surgical practice. Nearly every year of my professional life leads me to increase the dose of some one or the other of the articles that I am accustomed to use. Of what use is a sixteenth or an eighth of a grain of morphia to a man with severe pain? Give him a quarter of a grain or even a half, repeated if necessary, and he will soon be comfortable and thankful. Perhaps he will also pay his bill. The medical requirements of to-day are drugs and doses with inherent power. You can't lift a block of granite with a weak crowbar; neither can you cure agony with a debilitated dose of anodyne. So it is with all other remedies. If any medication at all is required, give that which will do the work and do it promptly. A few large doses will dispel the symptoms and cure the patient, when months of nonsensical drugging with emasculated remedies will bring nothing but discredit to the practitioner and obloquy to medical science. I have spoken of morphia as a type, but the same remarks hold good concerning quinia, atropia, strychnia, digitalis, iodide and bromide of potassium, mercury, pilocarpia and, indeed, of all our remedies. Use the alkaloids or active principles in every case. Then you will know what you are giving, and you will soon learn that much larger doses are tolerated than is usually thought possible. Many physicians and surgeons fail to cure; not because of faulty diagnosis, not because of inappropriate remedies, but because of insufficient dosage.

ON NEUBER'S DEEP CANALIZATION IN AMPUTATION OF THE FEMALE BREAST.

By ARPAD G. GERSTER, M.D., Surg. to the Polyclinic and the German and Mt. Sinai Hospitals, N. Y.

From the *N. Y. Med. Jour.*, March 8, 1884:—*Canalization* may be termed a process by which good drainage is afforded to a wound, shallow or deep, without the use of drainage tubes. It is divided into two kinds: shallow and deep canalization.

Shallow Canalization is employed for draining extensive subcutaneous cavities situated beneath large skin-flaps, such as occur after amputation of the breast or the removal of large tumors of the back. It is accomplished by the aid of a punch devised by Neuber, of Kiel, a tool very similar to the common leather punch, and differing from it only in the shape of the hole made by it, which is not circular but elliptic, and measures two-thirds of a centimetre by one centimetre in diameter.

The mode of applying the punch is to cut as many holes out of the skin along the most dependent portion of the wound as will suffice to carry away easily all the secretions. The punch makes a clean-cut orifice through the skin proper, out of which, however, small portions of subcutaneous fat are apt to protrude. These must be seized with forceps and removed with curved scissors.

The additional lesion caused by the punch is trifling, the holes granulate over readily, and, as a rule, are closed by the time the dressings are removed.

Deep canalization is intended to afford drainage to the secretions accumulating in the recesses of a deep wound, as, for instance, in the neck or the axilla. Here the dangers of retention and suppuration are far more grave

than in shallow wounds, however extensive. In the invention of Neuber's absorbable bone drainage-tubes an important step forward was made in the treatment of fresh wounds.

Even an absorbable drainage-tube, however, is at best a necessary evil, and every safe simplification of the operating apparatus must be looked upon as true progress. Neuber's inventive head has again furnished a solution to the question: "Is drainage of deep subfacial wounds possible without the use of tubes?"

He advises, in suitable cases, to detach the skin on both sides of a deep wound so as to make it movable, then to turn it into the bottom of the cavity and fasten it there with a sufficient number of catgut sutures. In this manner the greatest portion of the cavity becomes lined with skin, and it can heal by adhesion, the funnel of cutis serving at the same time as an unobstructible channel for draining the bottom of the cavity. This is called *deep canalization*.

The use of the absorbable bone drainage-tube will accomplish all that is desired; but as yet the procuring of this commodity is well-nigh impossible to the general practitioner, and, therefore, I have thought it admissible to try Neuber's idea of deep canalization as adapted to the axillary cavity. The procedure is easy and simple, and does not necessitate the use of special instruments. The requisites besides the ordinary apparatus are a punch and some stout catgut.

Dr. Gerster reports three cases and says:—"The limited experience gathered in the foregoing cases seems to justify the assumption that, where Neuber's bone drainage-tubes can not be procured, primary union of the entire wound made at a normal amputation of the female breast can, by the employment of deep canalization, nevertheless be attempted and accomplished under one dressing.

THE TREATMENT OF FRACTURES OF THE PATELLA BY THE PLASTER-OF-PARIS SPLINT.

By JAMES L. LITTLE, M.D., Prof. of Clin. and Operative Surg. in the Post-Graduate Med. School, New York; Prof. of Surg. in the Univ. of Vermont.

The following is from the proceedings of the *N. Y. Surg. Soc.*, March 11, 1884:

It will, perhaps, be best for me to state at the outset, in order to avoid a misunderstanding, that I always make a distinction between the plaster-of-Paris *bandage* and the plaster-of-Paris *splint*; two entirely different methods of using this material.

Immediately after the receipt of the injury, I elevate the limb slightly, and place it on a pillow, or a single inclined plane, and wait until the swelling and inflammatory action which follow have subsided. Although I have often attempted, I have never been able, to demonstrate that it made any appreciable difference in regard to the separation of the fragments whether the limb was in a straight position or the thigh flexed on the pelvis.

Sometimes, when the effusion into the synovial cavity is great, I apply pressure as soon as the patient is able to bear it, by means of a bandage. When the swelling has subsided, which takes from five days to a week, the following dressing is applied: A posterior splint is made of two thicknesses of bleached Canton flannel, strengthened in the middle, under the knee, by two extra layers; this is made long enough to reach from a little above the ankle to above the middle of the thigh, and wide enough to cover two-thirds of the circumference of the limb above and below the joint, but at the joint it should only just cover the condyles of the femur. Two pieces of Canton flannel, of from two and a half to three inches in width, double thickness, one long enough nearly to encircle the limb at the ankle, the other to encircle it at the upper third of the thigh, are prepared at the same time. The pieces designed for the posterior splint, are then thoroughly saturated in a mixture of plaster-of-Paris and water, taking care that the mixture is not too thick (superfine dental plaster should be used, and the mixture should be of about

the consistency of cream), and then smoothed out upon a board with the hand, and applied smoothly to the limb. Then the two bands are prepared in the same way and applied around the upper and lower extremities to hold it in position. A dry roller bandage is then firmly applied over all, and the plaster allowed to set.

As soon as this is accomplished the bandage is removed, and we have a firm posterior splint, secured above and below by transverse bands. Two other strips, of a double thickness of Canton flannel an inch wide, and long enough to overlap on the posterior surface of the splint, are saturated in a fresh mixture of plaster of Paris and then tightly applied obliquely from above and below the patella, while the fragments are held in position by an assistant, in the same manner as adhesive straps are for coaptation in this fracture. A dry roller bandage is then rapidly applied with the figure-of-eight turns over the strips. The surgeon then, with thumb and finger of each hand over these coaptation bands, forces the fragments into close approximation, and holds them there until the plaster has set. The bandage is then removed and a fresh one applied over the whole length of the limb. The dressing is then complete.

It is a good plan for the surgeon, before applying the coaptation bands, to see that the fragments can be easily approximated. In a number of cases I have found some difficulty in keeping the fragments in the same plane, or in preventing them from tilting, there being a tendency for one to rise above the other. This can be overcome by making pressure with the fingers over the line fracture while waiting for the bands to harden.

This dressing differs essentially from all others, in that the fragments are adjusted by the hands of the surgeon, and the "setting" of the plaster keeps them in the exact position in which they were held.

With this dressing the patient is not compelled to keep his bed, but may sit up or go about on crutches with but little inconvenience.

This apparatus, like all plaster-of-Paris splints, should be applied directly against the skin, care being taken, however, to remove the hair, or else smear the limb with vaseline or oil.

The condition of the fragments can now be examined at any time by simply removing the bandage, and, in case any separation has taken place in consequence of the shrinkage of the limb, it can be corrected by removing the coaptation bands and applying new ones. Care should be taken, if this becomes necessary, which is seldom the case, to moisten the posterior splint in order to insure the adherence of the new pieces.

This dressing should be left on for from six to eight weeks. The majority of patients rarely have any appreciable separation of the fragments at the end of the treatment, but as the union is generally ligamentous, a certain amount of separation will take place in time, as in all cases in which there is not bony union. Ligamentous union of moderate length does not impair the usefulness of the limb, and is as strong as the original bone. Bony union *obtained by wiring* may be aimed at by the idealist, but I question whether this method can ever be conscientiously adopted by conservative surgeons.

EXTRAARTICULAR WIRING OF THE FRACTURED PATELLA.

In the issue of *The Medical News* for December 8, 1893, we called attention to the risks of approximating the fragments of a broken patella with silver wire. The risks, it will be remembered, are due to opening the joint, which suppurred in nearly one-fourth of all the cases in which the procedure had been resorted to, and which led to a mortality of nearly six per cent. It was for these reasons that we ventured to express the opinion that antiseptic suture of the patella should be restricted to old cases, or those in which ordinary measures had failed to bring about union.

Dr. Van der Meulen, of Utrecht, has recorded in the *Lancet* for March 22, 1884, three cases of recent fracture successfully managed with the wire suture without opening the knee-joint. In all of the operations, which were performed on the eighth, ninth, and twenty-fifth day after the accident, he found,

after removing the clots of blood from between the two fragments, that a thin, but distinct, membrane existed between the posterior edges of the fragments, which acted as an effective barrier between the fragments and the cavity of the joint. By taking care to depress this membrane with a probe—the membrane being partially organized clot, or rather young connective tissue—while the canals are being drilled and the suture inserted, the cavity of the joint is not opened, and the risks of the ordinary procedure are averted. In one case the operation had to be repeated on account of refracture, but the final result was very good. In the remaining cases the functions of the joint were intact.

While Dr. Van der Meulen is to be congratulated upon his demonstration of an occluding membrane and upon the operation based upon its presence, which he has devised, we fancy that the generality of surgeons will demand a favorable experience with the method founded upon several hundred cases, before they will resort to it in recent fracture in preference to more simple measures.—*Ed. Med. News, April 12, 1884.*

FRACTURE OF THE NECK OF THE FEMUR.

Dr. A. C. Post, in the proceedings of the *N. Y. Surg. Soc.*, April 8, 1884, said he had recently seen a case which illustrated the difficulty occasionally encountered in the diagnosis of fracture of the neck of the femur. Two weeks before, a lady about seventy-seven years of age, a well-preserved and healthy person, fell one or two steps going down stairs, and immediately afterward was unable to walk, complaining of pain in the region of the hip, but did not send for him until the next evening. When he saw her she was lying on her back; the affected limb appeared very slightly everted, but, on careful measurement, he could not detect any difference in the length of the two limbs. He gave a guarded diagnosis, saying that there was possibly a fracture of the neck of the femur without separation of the fragments, and advised the patient to remain quiet. He visited her several times afterward, and found her in about the same condition, except that she gradually grew more comfortable, was able to move about in the bed without much discomfort, and, after the lapse of about ten days, everything going on favorably, he nearly abandoned the idea that fracture had occurred. He therefore allowed the patient a little more liberty, such as sitting in a chair, and allowed her to move about the room a little with the aid of assistants. He had seen her in the morning of the day of the meeting, and had found her sitting on a chair and not complaining of pain. With his assistance and the aid of an umbrella, used as a cane, she was able to walk very slowly across the room. This evening he received an urgent call to see her, with the statement that she had suddenly become very much worse and was suffering severe pain. When he reached her he found that there was more marked eversion of the foot, and that there was shortening of the limb to the extent of about seven-eighths of an inch. The account given was that, while she was sitting up, some friend called, and suggested that she raise her foot and place it on another chair, which she did, and was not conscious of having injured the limb, but, when she attempted to return to the bed, she immediately began to suffer from severe pain, and Dr. Post found the condition described, which had not existed at his morning visit. He then concluded that the case was originally one of fracture of the neck of the femur without separation of the fragments, that the fragments were held together by the thick periosteum of the neck, and that probably the movement made when she raised her foot and placed it in another chair separated the fragments and allowed them to pass by each other.

Dr. Post had been in the habit of treating such cases as cases of fracture until the diagnosis became clear or until the patient got well. He thought the case reported suggested the great importance of caution in that respect, and of being contented with uncertain diagnosis rather than subject the patient to the danger of separation of the fragments, which could not afterward be brought together.

The President remarked that Dr. Post's case of fracture of the femur was very interesting in several particulars, especially with reference to the difficulty of diagnosis, which in more than one instance he had himself experienced. He thought that where the patient was thin, and Bryant's line could be made out distinctly, and there was also relaxation of the fascia lata, sometimes a diagnosis could be made clear in this manner. But practically the rule laid down by Dr. Post must be followed, and the case should be regarded as one of fracture until such a period had elapsed as would show unquestionably that only a contusion of the muscles had existed. Attempts to elicit crepitus should be made with great caution.

Dr. L. A. Stimson thought the need of caution might be formulated even more strongly, and it might be said that when an elderly patient had fallen and struck upon the hip, with consequent inability to use the limb, unless absence of fracture could be positively made out, a diagnosis of fracture should be made, and the absence of fracture could only be asserted when all its minor indications were absent. As Professor Bigelow had pointed out, when no eversion could be recognized there might be diminished inversion. Another sign recently pointed out by a French surgeon, Hennequin, which Dr. Stimson had never failed to find in any case of fracture at the hip joint, since he had learned to look for it, was a *lack of depressibility* of Scarpa's space; that is, the fingers could be pressed into that space less deeply than normal, and the manipulation was always accompanied by pain in cases of fracture.

Dr. J. C. Hutchison said that in his own case, an impacted fracture of the femoral neck, there was at first great doubt whether or not fracture had occurred. He was carefully measured by three competent surgeons, one of very large experience, who made out three-fourths of an inch shortening, and one of the others found some shortening. Dr. Hutchison had the conviction that he had an impacted fracture, but he was not satisfied that a fracture had occurred until six or seven hours after the receipt of his injury, when symptoms developed which convinced him—namely, spasmodic contraction of the muscles about the hip when he fell asleep, which continued to occur from time to time for a week. He was disposed to regard the presence of muscular spasm about the hip joint, after severe injury of that part, as pathognomonic of fracture, but fracture here often existed when this symptom was absent. On the following day two of the three gentlemen had no doubt concerning the existence of a fracture. The fragments did not separate, although he was moved from Lake George to his home soon after the injury. He agreed with the opinion expressed by members, that when the diagnosis was doubtful in injuries about the hip, the case should be treated as one of fracture.

ADDUCTION AND ABDUCTION IN FRACTURES OF THE NECK OF THE FEMUR.

By W. S. HALSTED, M. D., Surg. to Bellevue and Asst. Att'g Surg. at Roosevelt Hospitals.

From the proceedings of the *N. Y. Surg. Soc.*, Feb. 12, 1884:—Dr. Halsted presented a patient with fracture of the neck of the femur with adduction, and a specimen of intra-capsular fracture of the neck of the femur from a case in which there had been adduction and a quarter of an inch shortening. He called attention to the necessity of making allowance for adduction and abduction in the estimation of the amount of shortening in these cases. From certain measurements made upon dead and living subjects, he had demonstrated that, as abducting the lower limb made it measure less along the line from the anterior superior spine of the ilium to either malleolus, so adducting it made it measure more along the same line; furthermore, that, one leg being adducted, the other must be abducted to be brought parallel with it. Hence, in a fracture of the neck of the femur with adduction, the injured limb might actually measure more than the sound one—*First*, because it was lengthened by adduction; *second*, because its fellow was shortened by abduction. In the case from which his specimen had been taken he had been able to make the diagnosis of fracture, because of the recognition of these facts. The injured limb was *apparently* shortened, but, by measurement from

the anterior superior spine to the malleoli, was one-eighth of an inch lengthened, although a quarter of an inch shortened along Bryant's line. The patient presented with fracture of the neck of the femur and abduction had limbs of apparently equal length. Along Bryant's line the injured limb measured three-eighths of an inch, but from the anterior superior spine of the ilium to the malleolus externus an inch and a quarter, shorter than the sound one. Dr. Halsted remarked, further, that, in cases in which, measured on Bryant's line, there was equal shortening, the adducted limbs would render more of a limp necessary than the abducted ones. In consideration thereof, he believed it unwise to allow the limb to remain in an adducted position.

THE PHILOSOPHY OF MANIPULATION IN THE REDUCTION OF HIP AND SHOULDER DISLOCATIONS.

By MOSES GUNN, M. D., LL.D., Prof. of Surg., Rush Med. Coll., Chicago, Ill.

The philosophy is included in the following paragraphs from a paper published by Dr. Gunn in the *Chicago Med. Jour. and Examiner*, May, 1884:—In a paper which I read before the Detroit Medical Society, and which was published in the *Peninsular Journal of Medicine* in September, 1853, I used the following language:

"What structure stood between effort and success? I answered, *the untorn portion of the capsular ligament*. * * * Extension and counter-extension by the pulley or Jarvis's apparatus in the usual direction, succeeds only by lacerating much more extensively, if not by tearing the ligament completely asunder, before the head will ride over the edge of the cavity. The principle, then, I would seek to establish is this: *that in luxations of the hip and shoulder, the untorn portion of the capsular ligament, by binding down the head of the dislocated bone, prevents its ready return over the edge of the cavity to its place in the socket; and that this return can be easily effected by putting the limb in such a position as will effectually approximate the two points of attachment of that portion of the ligament which remains untorn.*"

In an extension and republication of this paper, six years later, I added to the above principle the following:

"For the easy reduction of a dislocation, the dislocated limb should be placed in exactly that position which characterized it in the moment of escape of the joint end from its normal position in the joint."

These two principles constitute the key to the whole subject of manipulation in the reduction of dislocations; and the first, viz.: that which refers to the untorn portion of the ligamentous capsule is fully vindicated by Professor Bigelow in a work on the hip, published in 1869. This distinguished surgeon and teacher, however, as is well known, dignifies the reinforcing fibers of the ilio-femoral ligament by giving to it (the ilio-femoral) distinct individuality, and applies to it the term "Y ligament."

SARCOMA OF SYNOVIAL SHEATHS.

By THOMAS M. MARKON, M. D., Prof. of the Principles of Surg. in the Coll. of Phys. and Surg., N. Y.

From the proceedings of the *N. Y. Surg. Soc.*, April 8, 1884:—During the past four years several cases of disease of the synovial sheaths in the sole of the foot have presented themselves to me, the nature of which I failed to comprehend, and the gravity of which I did not appreciate, till the results, afforded the data for a correct judgment as to the nature, and some help at least toward a correct diagnosis, of the affection. I have seen only the three cases, and will describe the last case which has come under my notice.

Case 1. A. B., a middle-aged man, apparently in excellent health, presented himself at my office during the spring of 1883 for advice concerning a swelling which had slowly developed in the sole of his foot. He said that about two years previous he began to suffer aching pain in the part which he could not attribute to any strain or bruise. The pain was principally felt when standing or after walking too far. About eighteen months ago he first

noticed a fullness in the sole, most marked under the metatarsal bone of the great toe, but extending along the sole up behind, and a little distance above the internal malleolus. This extension from its original seat had taken place very slowly, and he thought was still going on. By reason of this swelling the foot has gradually become so disabled that he can scarcely walk at all without a crutch, and sleep at night is much disturbed. He feels tolerably well in all other respects, but the condition of the foot completely disables him. On examination, a swelling was found occupying the inner half of the sole, and extending round the internal malleolus up a little distance above that prominence, where it terminated somewhat abruptly. The swelling was tolerably firm, but yielding to pressure in such a way as to convey the idea of a fluid or semi-fluid substance contained in a firm and rather tense cyst or sac. This idea was strengthened by an indistinct sense of fluctuation which could be felt at different points of the swelling, and was sufficiently distinct to have induced the gentleman who had charge of the case to aspirate the tumor. No fluid was obtained. The tissues surrounding the swelling seem to be in a perfectly normal condition, and no inflammatory features have at any time been noticed.

After a careful examination of the case I pronounced a very doubtful diagnosis, and added a prognosis which I said might be very serious, including in the future a possible amputation, and, a possible fatal termination. My reasons for this gloomy prognosis were drawn from my experience in two previous cases.

All these cases presented one common feature, viz., an elastic, somewhat tense swelling, which gives a feeling of fluctuation which is more or less distinct according as the contents are fluid or semi-solid, the walls of the sac thick or thin, and the distention of those walls great or slight. The recognition of a distended synovial sheath is a matter of no great difficulty, but the appreciation of the nature of its contents is not so easy. Aspiration will reveal this point in many cases, but in many others nothing but a free incision will suffice. Operations upon these serous sacs have always been regarded with anxiety, because of the inflammation liable to follow their incision.

Dr. Markoe then gives the histories of the two previous cases, and says: I have not yet been able to find any description of an endogenous growth within the synovial sheaths which in any way resembles that which we have been considering. Fournier and Verneuil have published short papers on the forms of synovial distension which is dependent upon syphilis, but to this form their cases and remarks are strictly confined.

I have presented these cases to the society because I think they offer a phase of sarcomatous disease which has not hitherto been described. Traumatic and spontaneous inflammations of the synovial sheaths, both acute and chronic, are certainly not very uncommon affections, and to discriminate between these comparatively harmless conditions and those in which dangerous and even fatal results may possibly be realized is worthy of careful attention. That such discrimination may be made with certainty I would not venture to claim, but I think that the slow, painless progress, at least in the earlier stages, the absence of distinct fluctuation, the firmness and tension of the sac, and the negative results of puncture, may lead to a suspicion, if not to a certainty, of sarcoma, and may thus have an important bearing both on treatment and on prognosis.

DISPLACEMENT OF THE UPPER EXTREMITY OF THE FEMUR ON THE DORSUM ILII.

By STEPHEN SMITH, M.D., Clin. Prof. Surg., Univ. City of New York.

From the *Med. Record*, April 12, 1884:—There is a class of deformities about which little is written in surgical treatises, and which receive but slight attention from surgeons. I refer to cases of displacement of the upper extremity of the femur on the dorsum of the ilium, either by separation of the neck from the shaft, or of diastasis of the head from the neck. These cases differ materially from dislocations of the femur upon the dorsum which

occur in the latter stages of hip-joint disease. They more nearly resemble ununited fractures of the neck of the femur in adults.

The difference between these two deformities is this, viz., in the dislocation the thigh is fixed in the position of adduction and flexion, while in the separation of the head or neck the limb has free motion, with slight, if any, flexion, and generally there is aversion of the foot, as in fracture of the neck. The following case illustrates the peculiarities of these deformities, and a method of treatment adopted. In 1874 a girl, aged eight years, came under my treatment.

On examination, the right foot was found slightly everted, and the right leg was diminished in size throughout, though the left was abnormally large, owing to the increased use to which it had long been subjected. On comparing the length of the limbs it was found that, measuring from the anterior superior spinous process of the ilium to the malleolus, the injured limb was found to be shorter by two and one-half inches; but measuring from the upper extremity of the trochanter major on each side there was no difference in the lengths of the limbs. On manipulation of the affected limb the upper extremity of the trochanter was found on the dorsum of the ilium and near its upper edge. On rotation of the limb the trochanter turned upon its axis in the grasp of the fingers without a radius. The motions of flexion, adduction, and abduction were limited about one-fourth. On attempting extension it was found that the limb could be lengthened an inch.

The treatment proposed was extension until the greatest possible degree of lengthening of the limb was obtained, and then the application of a splint which should maintain this extension during the period of growth, or until a new point of articulation or support of the trochanter should be secured. The patient was accordingly placed in bed, and a weight attached to the limb as heavy as she could tolerate. At the end of three weeks it was found that the difference between the two limbs, measuring from the anterior superior spinous processes, was but one inch. To maintain the necessary degree of extension, and enable the patient at the same time to walk about, was the problem to be solved in the construction of the splint. The common hip splint makes but slight extension, and that only intermittingly. In this case continuous extension was required. To meet the indications a splint was devised the great advantages of which consist in its *constant and uninterrupted extension of the leg when the patient bends the knee-joint*, in consequence of the joint being under the knee; while, on the contrary, the usual brace, with joints on the side of the knees, causes the limb to lose the extension whenever the knee is bent.

This splint was worn continuously until the patient reached the age of eighteen, being extended from time to time to adapt it to the growth of the limb. During this period the limb remained of the same length as at the first application, a new joint formed, and the ability to walk without the appliance, and with but a moderate limp, is fully and, probably, permanently established.

A NEW METHOD OF TREATING LARGE BONE CAVITIES IN THE LOWER END OF THE FEMUR IN ADULTS.

By F. LANGE, M.D., of New York.

From the proceedings of the *N. Y. Surg. Soc.*, February 26, 1884:—Though in young persons, as a rule, no considerable difficulty is experienced in healing large bone cavities, I have repeatedly found in adults, after extensive operations on the lower part of the diaphysis of the femur, a very obstinate resistance to complete recovery. These large cavities are sometimes not filled up with permanent tissue. In three cases I have endeavored, by means of a plastic operation, to entirely obliterate the bone cavity. The operation consisted, with slight modifications, in forming an interior flap from the soft parts covering the lower end of the femur, which has its base either corresponding with the articular line or laterally. Ankylosis existing in a straight position, the patella was excised and the whole anterior wall of the bone cavity was removed. Finally, an oblique section was made, severing the anterior third

of the condyles and descending toward the bottom of the bone cavity. In this way the abruptness of its lower edge is replaced by a smooth, oblique plane. The whole bone cavity must be most thoroughly scraped out and disinfected. I recommend the use of a spray of a disinfectant solution forcibly directed against the bone surface. There is nothing that so thoroughly cleanses the surface as a spray employed in this manner. Then the dorsal flap, whose length must correspond to the extent of the cavity, is depressed toward the bottom of the cavity and eventually fastened by a nail or needle. No sutures are applied. Of course, raw surfaces remain above the edges of the flap, which are left to heal by granulation. It is remarkable how the great difference of *niveau* existing in the beginning disappears in the course of months. After a time the flap is again raised. Apparently a new formation of tissue, probably of bony nature takes place below it. I was led to adopt this plan by a similar method practiced on the head of the tibia, and recommended by my friend Dr. Neuber. So far as I know, no similar operation has been performed on the lower end of the femur.

The three cases to which I have referred are very interesting; they occurred in women of from thirty-eight to forty-six years of age. All of them had a serious osteitis of the lower end of the femur above the epiphyseal junction some twenty-five to thirty-five years ago. None of them underwent any operation at that period, at least no operation upon the bone. In two, small particles of bone came away spontaneously, and that, in one of them, more than twenty years after the first attack. All had long intervals of fifteen and more years of health, with a comparatively useful limb, until, in one case, from constitutional disturbance after childbirth, and in the two other cases from traumatic causes, renewed inflammation took place at the original point of lesion. In all, large cavities existed in the lower end of the diaphysis, the classical seat of osteomyelitis in young persons. In neither case did these cavities contain any dead bone, but here and there broken down granulations, so that pus lacunæ were formed.

All these patients were born in regions where acute osteomyelitis is more frequently observed, one of them in Switzerland, the two others in the lowlands of northern Germany.

THE TREATMENT OF BURNS.

By ROBERT T. MORRIS, M.D., late House Surgeon to Bellevue Hospital, New York.

From the *Medical Record*, May 17, 1884:—In burns of the first degree, in which the skin is hyperæmic but is not destroyed at all, the stinging, burning pain always calls for relief, and this may be promptly and completely relieved by the following method; (1). Tear any convenient soft fabric into strips a couple of inches wide, and spread them thickly with a mixture of carbonate of lead and vaseline in equal parts. (2). After the strips of painted cloth have been applied smoothly over the burned surface, cover the whole with a piece of gutta-percha tissue or oiled silk. (3). Cause a free movement of the bowels.

In burns of the second degree, where the cuticle is destroyed, the antiseptic method of wound treatment comes into play. If a small portion of the body have been burned, as, for instance, the forearm and hand, the plan to be carried out would be as follows: (1). Anæsthetize the patient. (2). Pull off all of the cuticle which is loose, and all that has been raised in blebs and vesicles. (3). Lay the arm on a towel which has been wrung out in bichloride of mercury solution (1 to 2,000) and carry a rubber blanket underneath all; arrange the rubber blanket in such a way that irrigating fluids shall run into a pail placed for their reception. (4). Scrub the burned area and the skin in its vicinity very thoroughly with a soft brush and at the same time bathe the parts copiously with bichloride of mercury solution (1 to 2,000) or with a solution of salicylic and boracic acids in the proportion of one grain of the former and six grains of the latter to the fluid ounce of water. (5). Cover the burned surface evenly with strips of protective oiled silk which have been stored in an antiseptic solution. (6). Sprinkle iodoform along the margins of the strips of protective. (7). Place several layers of carbolized or sublimated gauze over the protective and cover still further with a thick

wadding of borated cotton placed between layers of antiseptic gauze. (8). Apply snugly a carbolized roller bandage: (9). Keep the bowels open. (10). Quiet constitutional disturbance with bromide of potassium and chloral hydrate. The dressing should not be disturbed until the eighth day, and when it is removed it will be found that everything is completely healed and no further treatment is necessary. Of course the brush which we use has been washed in an antiseptic solution, and the surgeon's hands must be most carefully prepared before he touches the case.

In another class of cases, where a very large surface of the body has been burned to the second degree, we shall often find it impossible to apply the thoroughly antiseptic dressing which has just been described, and the subnitrate of bismuth treatment, which stands next in value, should be applied as follows: (1). Anæsthetize the patient with chloroform. (2). Remove all clothing, and whatever may adhere to the burned surfaces. (3). Wash all of the injured area with an antiseptic solution. (4). Pull away all loose cuticle, and as fast as it is removed sprinkle the parts beneath thickly with subnitrate of bismuth. (5). Cover lightly with a single layer of soft cloth or sheet-lint. (6). Remove the cloth covering once or twice daily, and wherever any of the subnitrate of bismuth has been loosened by the discharge sprinkle more of the powder on the place. (7). During the period of depression and congestion, sustain the heart and relieve the shock of the nervous system by the use of hypodermic injections of morphine. (8). During the period of inflammation, support the heart and aid the inflamed kidneys with digitalis. Quiet the disturbed stomach with belladonna, and give refreshment in the shape of acid drinks. Feed the patient by the rectum, and use peptonized milk only for this purpose. (9). During the period of reaction continue feeding by the rectum, and for the first time cause a free movement from the bowels, using a saline cathartic. (10). When reaction is well established, commence to stimulate the patient with sherry wine, and gradually coax the stomach to bear light, varied diet.

When we have to deal with a burn of the third degree, in which the true skin is destroyed through a part of its thickness, the following course is the best one to be pursued: (1). If the burn is small, including a few square inches only, apply the antiseptic dressing which is used for limited burns of the second degree. (2). Do not remove the dressings until the end of the third week, and then if the slough has not been absorbed pull it away and irrigate the granulating surface with an antiseptic fluid. (3). Hurry the reparative processes by doing a plastic operation or by skin-grafting; and when the latter is to be done, graft according to the following directions: Shave and scrub with an antiseptic solution any portion of healthy skin which you may choose. Raise small pieces of cuticle from the cleansed skin, on the point of a needle, and cut them away with a sharp scalpel. Place these severed pieces of cuticle near the margins of the granulating surfaces. Carefully lay a piece of antiseptically prepared protective oiled silk over the grafted area. Over the protective place eight or ten layers of sheet lint, which have been wrung out in a saturated solution of boracic acid. Cover all with a piece of gutta-percha tissue or any other waterproof material. Change the dressing on the third or fourth day, and after washing the granulating surface gently with a warm saturated boracic acid solution, add more grafts and dress as before. If no attempt is made to improve upon this method of grafting almost every little piece of cuticle will "catch."

When we have extensive burns of the third degree they are almost invariably found to be associated with burns of the second degree, and it will be best to combine two of our methods of dressing.

Burns of the fourth degree in which the true skin is entirely destroyed, should be treated by the dry method from the very first: (1). Rub the burned surface full of subnitrate of bismuth and iodoform, and continue doing this as long as any moisture remains. (2). Cover with a single layer of soft cloth or sheet lint. (3). When the dead skin has become dry and hard, and begins to slough away, aid the separation by trimming with scissors, and complete the case as if it were one of the third degree.

Burns of the fifth and sixth degrees do not call for attention in this article.

EVACUATION OF SPINAL ABSCESES.

The following is from an Editorial article in the *Medical News*, Feb. 23, 1884:—Prior to the introduction of antiseptic surgery, the treatment of abscess dependent upon caries and necrosis of the vertebrae was most unsatisfactory. At the present day, the recognized procedure with the majority of surgeons is to open the abscess under antiseptic precautions, wash out the cavity with a germicidal agent, and provide for efficient drainage; but this operation is delayed until the abscess has steadily increased in size, or has approached the surface in one of the usual situations.

In a clinical lecture, published in *The Lancet*, December 29, 1883, Dr. Chevasse, of Birmingham, urges, first, that the cavity of the abscess be freely opened and adequate drainage established as soon as the diagnosis is complete, or before the pus has pointed; and, secondly, that the incision be made above the crest of the ilium, with a view to furnish easy drainage at the most dependent part as the patient lies on his back. Other advantages derived from opening a psoas abscess in this locality are, that the drainage-tubes be omitted at an early date, that the drain-hole being very near the diseased bone, the three or four inches of abscess cavity below this point become obliterated in a few days, and that the antiseptic dressings can be applied and retained in position more readily than if the opening is in the thigh. Even in old cases in which the abscess has steadily progressed and burrowed beyond the thigh, Dr. Chevasse recommends the lumbar incision in the first instance, and a subsequent opening where the pus is pointing.

The next best position to open a psoas abscess is above Poupart's ligament, by an incision similar to that made in ligating the external iliac artery. The transversalis fascia having been reached, the abscess is rendered prominent by pressure made from below, or, should this fail, a probe carried through a small opening made in the thigh where the abscess is pointing upward under Poupart's ligament, will indicate the spot for a free incision. After the tubes have been inserted the orifice in the thigh closes. The opening in this locality, not being so dependent, affords a far less direct route for the free escape of the pus than the lumbar incision, and the tubes must be retained for a longer time.

That the views expressed by Dr. Chevasse represent the practice of the more advanced surgeons of Great Britain, is shown by the debate which followed the reading of a paper on this subject by Mr. Treves, at a recent meeting of the Royal Medical and Chirurgical Society, which may be found in the *British Medical Journal*, January 12, 1884. With the exception of Mr. R. W. Parker, who preferred opening the abscess above Poupart's ligament, the speakers were in favor of the lumbar incision as affording the shortest and most convenient route for efficient drainage. Besides the advantages already referred to, an opening in the loin admits of ready examination of the diseased vertebrae, and the removal of a loose sequestrum, if present, as happened in one of Mr. Treves's cases, or of carious bone with the gouge, as in an instance recorded by Boeckel, in 1882, in his brochure entitled *Fragments de Chirurgie Antiseptique*. The latter operation is, however, rarely practicable, but it may be resorted to when the disease is circumscribed and superficial.

In addition to the lumbar incision, the speakers, including Treves, Bryant, Macnamara and Marsh, generally favored an early operation to prevent the formation of a large collection of pus. Mr. Noble Smith alone opposed this view, since he trusted to complete mechanical fixation of the spine, through which he had seen good results. If no improvement ensued, he opened the abscess.

To what extent the incision through the structure of the loin will add to the dangers, experience can alone answer. If, however, we base our deductions upon the antiseptic opening of pointing abscesses, the risks should not be great, as we find that of 28 cases of this nature recorded by Lacharrière in his *Thèse pour le Doctorat*, 1883, only 5 were fatal, and that 2 of these were scarcely attributable to the procedure.

ANAL FISTULE IN TUBERCULAR SUBJECTS.

In a communication made to the Société de Chirurgie de Paris, and published in the *Compte Rendu Général*, January 2, 1884, M. Jeannel gives the details of two cases of operation for anal fistule in consumptives, one being in an advanced stage, and the second in the early stage of the disease. In both the wound refused to heal, but the general condition of the patients was improved.

From a therapeutic standpoint these cases would seem to be successes, and to dispel the widely spread fears which are entertained by the laity, as well as by the profession, in regard to surgical intervention in the class of subjects under consideration. That conflicting views are held as to the propriety of interference, is a fact well known to our readers. While some surgeons maintain that not only the local but the general condition is ameliorated, others of equal experience and reputation condemn the operation, basing their opinion upon its inherent dangers and upon the ill-effects produced upon the lungs by the suppression of a sort of natural issue. In point of fact, in some cases, the operation may prove to be both a surgical and a therapeutical success, that is to say, the wound may close, and the pulmonary symptoms improve. In other cases, the fistule refuses to cicatrize, and the pulmonary lesions may either undergo no change whatever, or be aggravated. Hence, the entire question resolves itself into one of indications. If the local suffering be slight, an operation should not be thought of; but if the local distress be considerable, it should be resorted to, even if there be little prospect of healing of the wound.—Ed. *Medical News*, Feb. 23, 1884.

TREPHINING IN HEAD SURGERY.

Dr. S. H. Benton contributes an article on this subject in the *Proceedings of the Medical Society of the County of Kings*, which thus concludes:

The deductions I draw from my own experience in head injuries are: (1.) That almost all compound depressed fractures of the skull, without operative interference, are fatal. (2.) That there is great danger in making a simple fracture of the skull compound, is more imaginary than real. (3.) That the therapeutic method is negative, and a virtual surrender to death. (4.) That the trephine, early used, is the best, and I think we can safely say the only agent in the hands of the surgeon to save life in these cases.

That after treatment forms no inconsiderable part in conducting our cases to a successful issue. I refer more especially to the local treatment. There are no capital operations where antiseptics can be practiced with greater profit, not excepting abdominal surgery, and it should be carried out to the most minor detail. The agent I have used, in all my cases, has been carbolic acid. I am careful to remove all spiculae and bone dust from the wound. I remove all depressed fragments, unless I am satisfied that their attachment to the skull is broad enough so as that the nourishment shall not be interfered with. I take no chances in this respect.

The wound should not be drawn together by sutures, with the hope of securing union by first intention. You may, if you choose, draw the edges of the wound reasonably near together, but not quite. There must be a chance for free drainage of the *debris*, if any be overlooked, as well as the natural products of inflammation, which, if confined, would undoubtedly produce the usual result, viz., septicæmia, and all that that implies. Some one has told us that "cleanliness is next to godliness," which, in these cases, as well as most cases of surgery, is true; therefore I keep the wound scrupulously clean, giving it my personal attention, and trusting to no nurse for this.

If any part of the brain should protrude later in the case, as usually occurs if the dura mater is much injured, I slice it off with the knife. This I find to be the best plan, as I have found it impossible to bring pressure enough to bear so as to press it back, and two or three times alarming head symptoms

were produced by the effort. Astringents I have found useless. I have never seen ill effects follow the use of the knife.

The indications for internal medication in all my cases have been very few. They were all young and vigorous subjects, as well as temperate in habits. No medicine was given, unless there was a present indication for its use—nothing for a possible future complication.—*Western Med. Reporter*, March, 1884.

RESPIRATORY ORGANS.

GLANDULAR HYPERPLASIA AT THE VAULT OF THE PHARYNX.

By J. SOLIS-COHEN, M.D., Hon. Prof. of Laryngology, Jeff. Med. Coll., Philadelphia.

In a paper published in the *Med. News*, Dr. Cohen says:—In many individuals, chiefly adolescents, and according to my own experience most frequently females, imperfect nasal respiration with impaired enunciation will be found to be due to hyperplasia or exuberant overgrowth of the conglobate mass of glandular tissue normally situated at the vault of the pharynx directly behind the upper portion of the septum of the nose. The hypertrophied tissue mechanically interferes with normal nasal respiration, and produces the peculiar intonation acquired when resonance is lost in the nasal passages. The intensity of these symptoms is proportionate to the amount of occlusion of the nares. Some exquisite preparations of this glandular tissue, in both normal and morbid conditions, prepared more than a hundred years ago by the celebrated William Hunter, are preserved in the anatomical section of the Hunterian Museum at Glasgow.

It consists of adenoid tissue, identical in structure with the tonsils, and the agminated glands of the intestine. Its similarity to the tonsil has caused it to be termed the *pharyngeal tonsil*. It is most usually described as the adenoid tissue of the vault of the pharynx, and its hyperplasia as adenoid vegetation.

The tissues immediately surrounding the diseased structure, are usually in a state of chronic catarrhal inflammation. A condition of hypersecretion usually exists.

When the hyperplasia extends as far as the pharyngeal extremity of the Eustachian tube, disorders of hearing, catarrhal or mechanical, are frequent. Peculiar headaches ensue in some instances.

The affection is often easily recognized by the symptoms incidentally alluded to, and the diagnosis is placed beyond doubt by inspection rhinoscopically, and by palpation.

The affection requires surgical intervention when the masses obstruct nasal respiration, or are in a condition of hypersecretion. The plan pursued by me during a long series of years, consists mainly in excision in fragments by means of curved forceps with cutting cup-shaped blades, passed behind the palate: instruments practically the same as those devised much more recently by a number of specialists abroad and at home. A properly guarded electrocautery is useful when the growths cannot be grasped by the forceps. Such cases have been very infrequent in my own experience.

A number of operations are required to get rid of these growths, in the manner recommended; but I consider the method far preferable to prolonged efforts to rid the pharynx at once. Serious reaction has followed attempts to do too much at a time. Under all circumstances the parts should be examined rhinoscopically after each operation. Bleeding is slight after excision with forceps, much slighter than after the use of ring-knives or sharp spoons. I have no practical acquaintance with the removal of the growths with snares, cold or incandescent.

In children, it is often practicable to tear these growths away with the finger-nail; a practice preferable to the use of cutting or burning instruments, though more bloody than the use of forceps.

No recurrences of hyperplasia after treatment have occurred to my knowledge, in my own practice, although removed by forceps more than fourteen years ago.

There is a natural tendency to spontaneous absorption of the tissue under consideration, after the patient has reached, say the twenty-fifth year. It becomes a question, then, whether it is proper at all to operate in children and adolescents. This question receives an affirmative response in view of the injury to general health, and the impairment of hearing and of enunciation, apt to result from years of continuance of the infirmity.

Although impracticable in many instances to trace a connection between the affection discussed and any diathesis, it has been my custom for years to employ antiscrofulous constitutional treatment with advantage. Two remedies, mainly, have been selected. The one is the hydrated chloride of calcium in simple syrup, thirty or more grains daily in divided doses; and the other, the oleoresin of cubeb, ten to twenty-five drops, on sugar, immediately after meals.

A NEW METHOD OF REMOVING NASAL POLYPUS.

By WILLIAM RALPH BELL, C.M., M.D., New Edinburgh, Ont.

The mode of treatment which, I believe, originated with me, and which I have practised with the very best results in several cases, obviates any trouble from hemorrhage, which frequently occurs when the forceps or hook are used; it is painless and very simple. I get my patient to blow strongly through the affected nostril, closing the other with his finger. The polypus will be brought down so that it can be easily seen through the external nares; then with my hypodermic syringe charged with a solution of tannic acid in water (of the strength of twenty grains to the fluid drachm), I pierce the polypus with the needle, and inject ten, fifteen or twenty minims of solution, according to the size of the tumor. In a few days the polypus shrivels and dries up (tanned); it comes away without any trouble or pain and looks like a clot of dried blood, my patients usually removing it by blowing the nose or by their fingers.—*Canada Med. Record*, February 19, 1884.

THE PATHOLOGY AND RADICAL CURE OF HAY-FEVER, OR HAY-ASTHMA.

By JOHN O. ROE, M.D., Rochester, N. Y.

From *N. Y. Med. Jour.*, May 10, 1884:—In the treatment of hay-fever we should first determine, by a careful exploration of the nasal chambers, the exact nature of the conditions which have been the exciting cause of the hyperæsthesia. Each particular spot which is especially sensitive should be located, and receive thorough and careful treatment until this sensitiveness is removed and no sensation of hay-fever is experienced by the patient when these regions are touched. This hay-fever sensation is unmistakable by the patient, for on touching these regions, however lightly, a burning sensation is felt in the nostril, as if the probe were heated, and is attended by the usual reflex phenomena.

When hypertrophied turbinated corpora cavernosa are the seat of the sensitive region, they should be thoroughly removed. When this region is the seat of the sensitiveness, though there is no well-marked hypertrophy of the turbinated bodies, sufficient tissue should be removed to destroy the diseased and sensitive terminal nerve filaments and to obliterate the enlarged blood-vessels. Redundant and hypertrophied tissue is best removed with Jarvis's snare, although caustics, such as acetic, chromic, or nitric acid, may be employed. For the destruction of the deeper plexuses of vessels, the galvanic cautery is by far the most efficient. It is also the most efficient means of removing the sensitive regions on the septum and other portions of the nasal chambers. For the latter purpose, a very small point should be used, so as to enable the operator to limit the cauterization entirely to the diseased tissue, and, by using a very small point, but little pain is occasioned.

All obstructions to the nostrils other than hypertrophic tissue should be removed, and also all abnormal conditions of the passages, whether they be sufficient to cause obstruction to the chambers or not, should be corrected.

In all these cases it is of special importance that there should be no points of contact between the turbinated bones themselves or the turbinated bones and the septum, even though there be no obstruction whatever to respiration. Spiculæ of bone are often found projecting across like a spur and exciting irritation and producing thickening of the opposite surface. This condition is more often found between the middle and superior than the inferior turbinated bone and the septum.

Afterward, when all offending tissue has been removed, local medication should be made to the nasal passages until the parts are healed and the chronic rhinitis cured, and the special irritability and hyperæsthesia has disappeared from every portion that is shown by the exploration with a probe, to be abnormally sensitive.

The time when these radically curative measures should be instituted is, my observations lead me to believe, when the patient is free from the affection, and in time to allow thorough healing of the parts before the time of the expected attack, although, if necessary, it may be begun during the attack.

It is also advisable and even necessary (where there is a doubt as to the sufficiency of the treatment) to examine the patient from time to time during the hay-fever season to observe if any portion of the nasal mucous membrane becomes irritated that has before been overlooked. If so, it should then receive prompt attention, and the diseased portion be thoroughly removed.

A CASE OF DISTORTION AND CICATRICIAL STENOSIS OF THE TRACHEA, FOLLOWING THE PROLONGED USE OF A TRACHEOTOMY TUBE.

By GEORGE M. LEFFERTS, M.D., Prof. Laryngology, Coll. Phys. and Surg., New York.

From the *Medical Record*, April 26, 1884:—During the past two or three years attention has been so frequently, forcibly, and I may be permitted to add, so rightly, called to the dangers incident to the prolonged sojourn of a tracheotomy tube within the walls of the trachea after the operation, and the subject is in itself one of so much importance, hardly receiving as yet, if we may judge from the published reports of even recent tracheotomies, the general attention that it merits, that the following practical illustration of these dangers will not be without value as a warning.

A medical student, aged twenty-five, consulted me incidentally in regard to a peculiar whistling noise that he made during inspiration, especially after exertion, and a difficulty that he at times experienced in clearing his throat of accumulated mucus. The conditions were old ones, and gave him no particular annoyance. Time had established tolerance.

The laryngoscope showed, to my own surprise as well as his when I informed him of the conditions, a stenosis of the upper trachea to the extent of at least two-thirds of its normal lumen; the lesion was evidently of long standing.

The patient was a strong, well-developed young man, with a bright, fresh color, who had never been conscious of any respiratory difficulty.

The stenosis was due, first, to a marked depression inward of the anterior arch of the cricoid cartilage; second, to a lateral prolapse of the tracheal wall; and third, to strong cicatricial bands—several in number—which ran, in an antero-posterior direction, from and below the convexity of the depressed portion of the cricoid cartilage to the posterior tracheal wall. The opening for respiratory purposes thus corresponded to less than one-half of the normal glottic opening.

When three years of age the student was tracheotomized for the relief of so-called diphtheritic croup. The tube was worn without intermission, ex-

cept for cleansing purposes, for nearly eight years. Why it was not removed earlier, he cannot tell me. A depressed and irregular cicatrix over the cricoid cartilage, nearly in the median line of the neck, marks the site of the operation.

EXTIRPATION OF THE LUNG.

Among the novel experiments recently tried in Italy, the extirpation of the whole, or a part, of the lung seems the most remarkable. Fifty-seven animals—sheep, dogs, cats, and others were the subjects—had an entire lung extirpated, and thirty-five recovered. In twenty-three cases the right lung was removed, and twelve recovered; the left lung was taken away in thirty-four, and there were eighteen recoveries. There were three cases of removal of the upper part of a lung, and one each of removal of the middle and of the lower lobe; all recovered. It is very doubtful if these experiments will ever be imitated, on an extended scale, in human beings. Professor Krönlein, of Zürich, however, in a case of recurring round-celled sarcoma of the sixth rib, recorded in the *Berliner klinische Wochens.*, of March 3, 1884, not only removed a large portion of the wall of the thorax, including the costal pleura, but also resected a portion of the lung, which was the seat of a secondary sarcomatous mass. The insignificant bleeding from the lung stopped after bringing the edges of the wound together with catgut sutures. In one month the patient was discharged cured.—*Ed. Med. News*, May 3, 1884.

CIRCULATORY ORGANS.

DISLOCATION OF THE COMMON CAROTID ARTERY.

From the proceedings of the *N. Y. Surg. Soc.*, Feb. 12, 1884:—Dr. F. Lange presented a patient, a woman, forty-seven years of age, who had been troubled with a disagreeable feeling in her throat for about nine months, which she described as a perpetual desire to swallow. She had been treated with internal and external remedies and applications, and called at his office about a week ago, when he examined the throat and discovered what could be readily seen on the posterior wall of the pharynx, on the right side, at the lower edge of the arcus pharyngo-palatinus—a roundish, pulsating tumor. Closer examination showed that it was the common carotid artery, which was dislocated, and could be traced by laryngoscopic examination as far down as the arytenoid cartilage.

There were also hypertrophy of the left ventricle and a decided thickening of the coats of the other carotid artery, which was situated abnormally superficially, and there was some albumen in the urine; and the patient said that about nine years ago she had an attack of acute nephritis. The question was whether the trouble depended upon the anatomical abnormality, and had always existed, or only since the trouble in her throat has been manifested.

On the left side the soft parts are slightly prominent, and are sunk in on the right side. Dr. Lange thought the prominence of the artery on the left side was due to the superficial position of the common carotid artery; moreover the entire larynx seemed to him to be abnormally movable, especially so as one could pass on the right side the fingers behind the thyroid cartilage and pull the artery out, dislocate it laterally, and push the larynx well over to the opposite or left side. He thought it probable that it was the common carotid and the beginning of the internal carotid which was dislocated. The artery seemed so movable beneath the mucous membrane of the pharynx that, by some pressure from the right side, it would be pushed almost as far as the middle line, passing from there upward and to the right side in a curved line.

ANEURISM OF THE INNOMINATE ARTERY TREATED BY
SIMULTANEOUS LIGATION OF THE SUBCLAVIAN AND
COMMON CAROTID ARTERIES, FOLLOWED
BY RECOVERY.

In the *Pacific Med. and Surg. Jour.*, March, 1884, Dr. Julius Rosenstern reports the case of a woman, æt. 42 years, who, about two and a half years ago, began to experience pains in the upper part of the chest, and extending into both arms. In July, 1888, a pulsating swelling was noticed on the right side of her neck, and has since increased. The symptoms were those of aneurism of the innominate artery.

On November 26th the right common carotid and subclavian arteries were ligated, two ligatures being placed upon each. The wounds were irrigated with a four per cent. solution of carbolic acid, filled with iodoform gauze, then sewed up with the exception of a small opening for the passage of the ligatures and an iodoformized drainage-tube. The whole was covered with an iodoform wadding bandage, the head drawn over to the right side with triangular cloths, and the right arm firmly bandaged to the thorax. The bed was elevated at the foot to facilitate drainage and guard against a congestive abscess in the mediastinum.

The first bandage was changed on the seventh day after the operation, the iodoform gauze removed, the wound iodoformized and compressed with iodoform wadding bandage. The sutures were removed on the fourteenth day. The edges had united by first intention, with the exception of the space occupied by the drainage-tubes, which were also taken out at the same time. The temperature only rose once to 102° F. The pulse was at first 100, and very strong, but gradually came down to 80. One ligature of the carotid came away on December 24th, the other eight days later. The ligatures of the subclavian came away toward the end of February. The right radial pulse reappeared on January 2d, but is still very much weaker than on the other side. The pulse in the right temporal artery cannot yet be felt.

On the 1st of January she left the bed for the first time, and went home on the 8th. Since the day after the operation the pains and difficulty of breathing have not returned. The tumor, though considerably diminished, has not entirely disappeared.

SECONDARY HEMORRHAGE FOLLOWING FRACTURE WITHOUT
INJURY TO THE ARTERY BY THE BONE.

Dr. L. A. STIMSON reported a case of secondary hemorrhage following fracture without direct injury to the artery, occurring in the case of a man, twenty-five years of age, who was admitted to Bellevue Hospital about the middle of March with fracture of the right leg caused by being run over by a horse-car. The fracture was at the junction of the lower with the middle third, and there was considerable laceration of the integument upon the anterior portion of the leg. The bleeding at the time of his admission was slight. The wound was cleaned with the corrosive-sublimate solution and thorough drainage adopted. On the eighth day after admission a profuse hemorrhage occurred, and the patient died a few hours afterward. At the autopsy, on exposing the anterior tibial artery, he found a ragged opening on its anterior surface one-third of an inch long, and situated an inch and quarter above the line of fracture, and immediately above this large, ragged opening there was a small pin-hole opening; there was no clot in the vessel, the bone did not press upon it, and there was but little inflammation about it. The posterior tibial artery was thickened and discolored at the same level, and apparently undergoing an inflammatory process which might have terminated in thrombosis or ulceration, as the anterior vessel had done, if the patient had lived longer.—*Proceedings of the N. Y. Surg. Soc., April 28, 1884.*

PROBABLE TRANSFIXION OF THE HEART, WITH RECOVERY.

In the *Edinburgh Medical Journal* (March, 1884), a case is reported of a woman with suicidal impulse, confined in an asylum, who was observed, just after getting into bed one night, to have become suddenly and violently ill, and medical aid was summoned at once. On its arrival she was found to be quite unconscious, very pale, skin cold and clammy, pupils widely dilated, but there was no conjugate deviation present; the features were drawn and altered, and the head was rolled rhythmically from side to side, patient moaning slightly at times. The radial pulse on the right side was very weak, that on the left almost imperceptible; rate 78 per minute. The left arm and leg were quite paralyzed, so far as could be made out. The right arm was lifted and let fall feebly and aimlessly now and then. She had vomited a little, but no deleterious substance could be detected in the rejected matter by the rough examination possible at the time.

On palpation over the præcordia the cause of this rather puzzling condition was discovered. A knob about the size of a large pea was felt adhering to the chest wall, in the situation of the apex beat, and this proved to be the head of a large steel shawl-pin, about three and three-eighths inches long, which the patient had succeeded in secreting, unobserved by the attendant in charge, which she had thrust right into the chest, at the situation mentioned above, the part imbedded being directed slightly upward and inward, and measuring about two and three-fourths inches. It was at once removed, and stimulants administered, and almost immediately the heart's action began to gain in force. The pulse became stronger and steadier, and consciousness slowly and gradually returned. For some time there was very urgent dyspnoea, and patient complained much of pain in the præcordia, but these unfavorable symptoms diminished as time went on, and after an hour had passed she was much better; the paralysis of the left side had disappeared; the pulse was steady, and of fair strength, rate 108 per minute, and she was quite conscious of what transpired around her. For hours after the occurrence she was sick again, and vomited a little, but this soon passed off, and she fell asleep, and slept at intervals during the rest of the night, stimulants being given frequently in small doses. On the following day she complained of some pain at the site of puncture and of headache, but was otherwise pretty well, and her recovery after this proceeded without interruption.

The writer believes, from the point of puncture and the direction of the needle, that the heart was wounded near its apex. Reference is made to a similar case in Holmes's Surgery, and to another author who describes a tigress which lived for some time with seven lead bullets in her heart. The practical applications of these facts to the operation of cardiocentesis are of interest.—*Boston Med. and Surg. Jour.*, April 24, 1884.

ALIMENTARY ORGANS.

WOUNDS OF THE INTESTINES.

By S. D. Gross, M.D., LL.D., D.C.L. Oxon., LL.D. Cantab., Emeritus Prof. of Surg. in the Jeff. Med. Coll. of Philadelphia.

From the *Medical Times*, May 3, 1884:—Wounds of the intestines may, like similar lesions in other structures, be incised, contused, lacerated, or punctured, the latter including those made by gunshot. All injuries of this kind of the intestinal tube, whether slight or multiple, simple or complicated, derive their chief importance from two sources—escape of fecal matter and peritoneal inflammation. The accompanying hemorrhage is generally a subordinate occurrence.

The manner in which wounds of the intestinal tube are repaired depends very much upon their character. Simple incised wounds, if properly treated, heal by union by the first intention. When the suture is carried through the

mucous membrane, the healing process is more tardy, and, if some of the stitches should give way prematurely, so as to allow the edges of the wound to gap, the union will be effected mainly through the agency of the serous coat. Granulations always form with difficulty, and rarely afford much aid in filling up the breach. Lacerated, ragged, contused, punctured, and gunshot wounds heal in the same manner as incised, but the process is more tardy and more liable to fail.

The diagnosis of wounds of the bowel is a matter of primary consideration.

The two principal signs which must serve to guide us in uncertain cases are tympanites and a discharge of blood by the anus. The occurrence of tympanites is unquestionably a symptom of great value. Jobert, who was the first to notice it, regards it as the most reliable of all the phenomena when there is no escape of fæces, mucus, bile, or other fluid at the abdominal wound, and in this opinion the results of my personal observation fully coincide. The tympanites supervenes at various periods; is always diffused, not circumscribed, and sometimes reaches an enormous height, and is then always very painful.

Although tympanites is generally present in lesions of this kind, there are cases in which it is entirely absent, as, for example, when the wound in the bowel amounts to a mere puncture, in which the opening is effectually closed by the protrusion of the mucous membrane.

A discharge of the blood by the anus I regard as a very valuable symptom of a wound in the bowel, especially when it makes its appearance a short time after the infliction of the external wound, and when it continues, more or less abundantly, for some days afterward.

No useful conclusions can be deduced from the shock and the pain which attend lesions of this character, since both vary greatly in different cases and in different circumstances.

In regard to probing wounds of this kind, the universal sentiment of the profession is opposed to it, on the ground that, while it can do no good, it would often be productive of great harm by disturbing the relation of parts, and thus endangering fæcal effusion. I do not think, however, that this rule should apply to the mural wound. Here a probe, properly used, might at least afford useful information in regard to the direction and extent of the external injury.

In the treatment of wounds of the intestines two leading indications are scrupulously to be kept in view—the prevention of fæcal effusion, and the occurrence of peritonitis. To secure the first, the only safeguard is efficient suturing of the wound. A case, it is true, occasionally recovers without any precaution of this kind, but this is owing to good luck rather than to good treatment.

The question here naturally arises, Should all wounds of the bowel, however small, be sutured? Upon this subject there was certainly till recently, if indeed there is not still, some diversity of opinion. The great Benjamin Bell, of Edinburgh, writing near the close of the last century, holds, in the midst of the darkness that surrounded him, the following emphatic language: "However small a wound," he says, "of the intestine may be, it ought always to be secured with a ligature, for although it is alleged by some that we should rather trust to nature for the cure of a small opening than to insert a ligature, to me it appears that the opinion is by no means well founded, inasmuch that I would not leave even the smallest opening that could admit either fæces or chyle to pass, without stitching it up. Much danger may ensue from omitting it, and the hazard of the patient cannot be increased by the practice being adopted."

This advice of the sagacious Scotchman so clearly and emphatically enunciated nearly a century ago, is now the universal practice in all cases of wounds of the bowel, however diminutive, based as it is upon the well-ascertained fact that enterorhaphy, when properly performed, is a harmless operation as compared with the risk of fæcal extravasation and the consequent certainty of peritonitis.

Judging from the results of my own observations, I have long been of the opinion that there are only two sutures that should ever be employed in sew-

ing up a wounded bowel. These are the continued and interrupted, with the modifications of the latter by Lembert and Gély.

The interrupted suture is, as a rule, preferable to the continued in all wounds of the bowel, whatever their extent or direction, whether they embrace the entire calibre of the tube or only a limited portion, and whether they are circular, oblique, or longitudinal. The operation of uniting the bowel where the division is complete, will be greatly facilitated if the first suture be inserted at the mesentery and the second immediately opposite.

The best, certainly the safest, ligature for suturing a wounded intestine is ordinary sewing silk, well waxed, and inserted with a long, sharp sewing-needle. The carbolized catgut ligature is liable to give way prematurely, and should, therefore, be avoided.

Each suture should be fully one line from the edge of the wound, and should embrace only the wall of the bowel, instead of its entire thickness.

In the modification of this suture by Lembert, the object is to invert the edges of the wound so as to bring the two serous surfaces in immediate and firm contact to establish, as it were, union by the first intention. In making this suture, the needle makes two dips on each side of the wound instead of one, as in the ordinary procedure.

"Gély's suture, which is merely a modification of that of Lembert's, is made with two needles inserted near the angle of the wound, about one line from its edge; they are then carried along the interior of the bowel, parallel with the wound, for the sixth of an inch, when they are brought out precisely at the same level, so as to appear again on the peritoneal surface. The threads are then crossed, the right needle being passed through the puncture made by the left, and conversely, when the ends are firmly tied and cut off close as in the ordinary operation. The number of sutures varies, of course, according to the extent of the cut. In this way the edges of the wound are thoroughly inverted, and consequently all danger of faecal effusion is prevented; the coaptation, in fact, is so accurate as to conceal the ligatures."

The treatment of wounds of the bowel by the continued suture has afforded good results in my experiments upon dogs. The chief objection to it is that it leaves the edges of the wound in an uneven, puckered condition, which interferes perhaps somewhat with rapid union.

The suturing of the wound having been completed, and any foreign substance that may be present removed, the bowel is restored to its natural situation, followed by the omentum, in the event of its prolapse. The return of the bowel will be materially facilitated by the use of a little olive oil. If any serious obstacle offer, it must be surmounted with the probe-pointed bistoury, or by puncture of the tube, if it depend upon the presence of gas. The wound in the wall of the abdomen should be closed in the same manner as in ovariectomy, the sutures being carried through the peritoneum so as to protect the parts effectually against hernial protrusion, a thing never to be lost sight of after such lesions.

What should be the conduct of the surgeon when the bowel is wounded, but not prolapsed, owing to the small size of the mural opening? I do not think that I can answer this question better to-day than I did forty years ago, when we knew comparatively little of abdominal surgery. It will not do for the surgeon to fold his arms, and look upon the scene as an idle and disinterested spectator. Dilate the external wound, if it be not already sufficiently large, hook up the injured bowel, and close the solution of continuity with the requisite number of stitches, at the same time that the effused matter is carefully removed with tepid water and a soft sponge. All wiping must, of course, be carefully avoided, as this would add much to the risk of peritonitis.

"By the above procedure, which, under the circumstances pointed out, I should not hesitate to pursue, the patient is not placed in a worse condition than a female who has undergone the Cæsarean section, or a person whose abdomen has been ripped up in the first instance; recovery from both of which is not, as is well known, of unfrequent occurrence."

The therapeutics after all such lesions is sufficiently simple. The great point is to prevent peritonitis, or to combat it, if it takes place. The posture

should be such as to relax thoroughly the abdominal muscles. The bowels should be locked up with opium to prevent peristaltic action, and nothing but iced water or pounded ice, aided, if there be much gastric distress, by a small allowance of dry champagne, should be permitted during the first three or four days. Oppression from gas should be relieved with injections of turpentine and asafoetida. Peritonitis should be met with leeching, followed by vesication with cantharidal collodion, and full doses of opium; venesection will be proper when the patient is young and robust. A laxative of castor oil, or of sulphate of magnesium, may be given at the end of five or six days, if there be marked suffering from tympanites. The urine should be drawn off during the first few days with the catheter.

I have, thus far, said nothing of gunshot wounds of the intestines. Such wounds are generally of a very serious nature, and are, therefore, liable to be followed by the worst consequences. The only rational treatment in such cases is to expose at once, or with the least possible delay, the peritoneal cavity, to stitch up, or excise, the wounded bowel, and lastly, to clear away all extraneous matter. Excision of the tube is imperatively demanded when the wound is very large, severely contused, or very ragged. Nothing short of this would answer under such desperate circumstances; and even then no sensible surgeon would venture to pronounce a favorable diagnosis.

GASTROSTOMY FOR CARCINOMATOUS STRICTURE OF THE ŒSOPHAGUS.

By S. W. GROSS, M.D., Prof. of the Principles of Surg. and Clin. Surg. in the Jeff. Med. Coll. Phila.

From *The Coll. and Clin. Record*, April 1, 1884:—The next patient is a woman, fifty-one years of age, with stricture of the œsophagus, depending on carcinoma. I found it impossible to pass a bougie, or a soft tube for the purpose of alimentation, and as the trouble in swallowing grew worse and worse, I was finally compelled to open the stomach. Four weeks ago I made an incision parallel with and three-fourths of an inch below the eighth and ninth costal cartilages, down to the peritoneum. The bleeding having been arrested, I then opened the abdominal cavity, and attached the parietal peritoneum to the wall of the stomach with a continued suture of fine black silk, and I also stitched the wall of the stomach to the wall of the abdomen with an outer row of interrupted sutures, so as to afford as much surface as possible for adhesion between the two surfaces of the peritoneum. The serous and muscular coats *alone* should be included, so that the little openings will not admit of the escape of the contents of the organs, through which peritonitis will ensue.

For a few days after the operation the patient was fed by the rectum. Afterward, when the spasm of the œsophagus did not prevent it, she received by the mouth dry champagne, milk, eggs, and chicken soup.

There is no necessity for leaving the tube in the stomach, as it can be introduced whenever we desire to feed the patient, although for the first few days it was retained, to prevent the closure of the opening.

Seven weeks after opening the stomach: The condition of the patient is excellent, the reflex pains having been entirely relieved, and the strength maintained, although she has not gained in weight. Hence, the desired object of averting death from threatening starvation has been attained, and there is every prospect of maintaining life in comparative comfort for several months.

A personal experience with two cases and a thorough knowledge of the literature of the subject have convinced me that gastrostomy is not only easy of performance, but that it should be resorted to in all cases of carcinoma of the œsophagus as soon as dysphagia has set in, for the double object of alleviating suffering and prolonging life. The best incision to reach the organ is that of Bryant, which commences at the outer border of the rectus at the level of the eighth costal cartilage, and is carried for three inches below the borders of the ribs toward the apex of the tenth cartilage, the movable tip of the latter on the ninth cartilage being a capital guide for the

termination of the incision. Unless there is imperative need for opening the stomach at once, it will be wise to divide the operation into two stages, so as to insure perfect union of the peritoneal surfaces, and thereby prevent peritonitis from effusion. To effect this object, the stomach should be stitched to the wall of the abdomen by an outer row of pure silk sutures, as recommended by Howse, in addition to the sutures inserted through the viscus and the edges of the wound, care being taken not to penetrate the cavity of the stomach, lest its contents may pass through the punctures and light up peritonitis, as happened to Volkmann. The opening in the stomach, which may be made after the lapse of five or six days, should not be longer than a quarter or the sixth of an inch, and in making it the organ should be steadied by the two threads or wires inserted at the first operation near the center of the exposed portion. For feeding, an elastic tube of sixteen or eighteen millimeters in circumference may be permanently retained in the opening, but it should be renewed at least every four days.

INTERNAL HEMORRHOIDS—TREATMENT BY LIGATION.

By S. W. Gross, M.D., Prof. Surg. Jeff. Med. Coll., Philadelphia.

From the *Coll. and Clin. Record*, April 1, 1884:

It not unfrequently happens, particularly in persons of a costive habit, that a little tumor makes its appearance at the margin of the anus. The patient is aware of a pain shooting up the back, and also of a sense of soreness, and, on examining the anus, finds a small lump. This is an external hemorrhoid. It is caused by a rupture of one of the inferior hemorrhoidal veins at the margin of the anus, where the mucous membrane and skin join. As a result of the rupture a little blood is poured out into the connective tissue, and coagulates, forming a hard, somewhat painful tumor at the margin of the anus.

The treatment of such a condition of affairs is extremely simple. It is not a wise plan to operate upon an external pile immediately upon its formation, or before the blood is coagulated, for under such circumstances, if it be laid open, the cavity will refill and the pile be reproduced. We should wait until the blood has clotted, as shown by the hard feel of the tumor, when, the patient having been placed upon his side, with the thighs and legs fully flexed, or in the knee and elbow position, the tumor is grasped with the thumb and finger, and laid open with a curved bistoury, and the clot expressed.

The pathology and treatment of internal hemorrhoids are entirely different. Internal piles occur beneath the mucous membrane of the rectum, not at the margin of the anus. There is underlying the mucous membrane, in the connective tissue between the mucous and muscular coats of the bowel, a large number of arterial and venous vessels. The veins become enlarged and varicose, very much as the veins of the spermatic cord in varicocele, or the veins of the extremity in varix. Not only do the veins enlarge, but the arteries also become dilated and varicose, so that, in the majority of cases, the tumor is composed of dilated veins and arteries, the veins, however, predominating, covered with the mucous membrane of the bowel. For all practical purposes this description is sufficient. An internal pile is an angioma, made up of dilated and varicose veins and arteries, with a predominance of veins. This is the usual form of internal pile. In some cases this predominance of the veins is so great that the part played by the arteries is obscured, so that we may speak of an angioma, composed entirely, or almost entirely, of enlarged veins, or cavernous angioma. There is still another form which, although uncommon, is, however, more frequently met with than the pure venous pile, that is the one in which the capillary arteries have become enlarged to such an extent as to predominate over the veins. Such a condition is diagnosticated by the vivid red appearance of the mucous membrane, and by the fact that the surface, through the growth of the capillary loops, is thrown into papillæ, causing it to present the appearance of a strawberry.

In managing an internal pile, if we were to incise it as we do an external pile, there would be very free hemorrhage, not only from the veins, but also

from the arteries. Hence it is that, in the treatment of internal hemorrhoids, we never cut into the tumor. In older days excision was practiced, but not a few patients bled to death. At the present time we aim to produce obliteration of the blood-vessels, which may be done in a variety of ways. The operation which I shall show you is that of ligation. The bowels should be moved by an enema, and just before the operation the patient sits over a bucket of boiling water. The steam relaxes the part and a little straining brings the pile into view. As the patient strains, two tumors protrude. Around the small one it will be sufficient to place a ligature, but I shall tranfix the larger tumor with a needle armed with a double ligature, and tie it in two sections. When there are a number of piles, say six or seven, it is not necessary to operate on all. If four are tied, the object will be accomplished; the amount of inflammation set up being sufficient to obliterate all. You should never allow a patient to walk about after any operation for hemorrhoids, no matter whether it is a simple one, as in the present instance, or a more severe one, as clamping the tumors, cutting them off, and searing the cut surface with the hot iron. The patient must go to bed, so as to run as little risk from pyæmia and tetanus as possible.

In your books you will find it stated that a certain amount of laudanum should be thrown into the bowel, or an opium suppository be used after the operation. I consider this a bad practice. The rectum is already stuffed up enough. If the patient suffers pain, one-third of a grain of morphia may be given hypodermatically. The bowels should be confined for three or four days, or until the patient begins to feel a little uneasy about the belly, when a free and easy motion may be secured by injecting six ounces of sweet oil, and following it up the next morning with half an ounce of castor oil, by the mouth.

After all operations upon the bowel, you should inquire into the condition of the bladder, since there is often reflex spasm of the muscles of the urethra and the neck of the bladder, causing retention of the urine, which will have to be relieved with the catheter.

URINARY AND GENERATIVE ORGANS.

THE TREATMENT OF GONORRHOEA.

By S. C. GORDON, M.D., Surgeon to the Maine General Hospital, Portland, Me.

In a paper published in the *N. Y. Med. Jour.*, April 19, 1884, Dr. Gordon reaches the following conclusions concerning the use of hot water in the treatment of gonorrhœa:

1. I should hope, and confidently expect, to abort, in from three to five days, a large majority of cases that were treated as soon as the first well-known symptoms appeared. In these cases I use the injection as *hot as it can possibly be borne*—three or four times in twenty-four hours; at least two quarts should be used at each time.

2. In cases of ten days' or two weeks' duration (at which time the inflammatory process has ended), I believe the most of the trouble can be relieved in a very few days. The suffering so characteristic of that stage will usually pass away in twenty-four hours. In many of these cases I have been enabled to force the water into the bladder and then allow the patient to pass it away immediately. This has a good effect upon the dysuria, relieving it almost at once. In this class of cases, also, the water should be very hot.

3. Where two or three days have elapsed before the patient is seen, I do not expect so much as in the former classes. Even here much may be done by the external use of very hot water and the careful, gentle use of the fountain-syringe, filled with *simple warm water*, at about the temperature of the body, or less. This promotes cleanliness, and is a sedative.

I would add that my three years' experience fully justifies me in commending this plan to the attention of the profession.

EXPERIMENTS WITH RECENTLY RECOMMENDED REMEDIES IN GONORRHOEA.

By E. L. KEYES, M.D., Prof. of Cutaneous and Genito-Urinary Diseases, Bell. Hosp. Med. Coll., N. Y.

From the *Journal of Cutaneous and Venereal Diseases*, March, 1884:

Hot water has become one of the therapeutical modes of the day, and irrigation and drainage, as surgical principles, have been brought to bear upon a number of maladies formerly treated in other ways.

In any case of urethral inflammation in the male, hot water irrigation, intermittently applied, is a part of the treatment instituted by nature, for every act of urination performed by the patient washes out the urethra with a hot fluid, generally rendered bland and alkaline by the alkaline diuretics prescribed, yet as a curative means this natural irrigation has little value.

In these modern days of hot-water therapeutics, however, the tendency is for the surgeon to take the initiative.

It is but natural, therefore, that hot water should find its way into urethral therapeutics, and the subject seems now to be receiving general attention in this city.

Besides the use of hot water by deep irrigation, a claim is made for its efficacy when repeatedly used by the ordinary method of syringing as customarily practised by the patient.

I have come into contact with a few cases in which both these methods have been used, and my impression of them based upon these few cases is that they are not only useless, but dangerous in many instances, especially in fresh gonorrhœa in a virgin subject; in the case of old sinners, whose urethral canals have been toughened by several previous inflammatory attacks, they appear to be harmless, sometimes even efficient.

My experience covers five cases, in the management of which I was assisted by Dr. Blackwell.

In case I. the hot-water treatment stood upon rather neutral ground; in case II. there was a temporary subsidence of the discharge after each injection, with an equally prompt recurrence; in case III. the first injection greatly aggravated the symptoms; in case IV. the discharge was only temporarily arrested; and case V. was a counterpart of case II. In these five cases the utmost care was used in making the injections, which were done without any violence, a very small soft rubber catheter being used and a fountain syringe.

My experience comprises two other cases treated primarily by other physicians.

After giving the histories of these cases, with their complications, Dr. Keyes closes his paper as follows:

My conclusions, therefore, are—my temporary conclusions, I should say, for they are based on too imperfect data to allow accurate generalization: (1) A mild bichloride of mercury solution irritates the mucous membrane of the urethra more than it seems to irritate an open wound. (2) It appears that an abortive treatment of true gonorrhœa is yet to be discovered. (3) The hot-water treatment of gonorrhœa is unreliable.

DIVISION OF STRICTURE WITHOUT SUBSEQUENT SOUNDING.

By J. McF. GASTON, M.D., Atlanta, Georgia.

From the *Atlanta Med. and Surg. Jour.*, April, 1884:—Specialists in this department are not agreed among themselves as to the safest and most efficient process of treatment for the removal of the greater and lesser impediments to the flow of the urine; gradual dilatation, forcible and rapid dilatation, incision jointly with dilatation, incision followed by dilating measures, and incision simply and purely, being preferred for overcoming strictures by those having experience in these respective procedures.

There is a difference of opinion among those who use cutting instruments, as to making the incision along the upper or lower wall of the canal, and the liability to grave consequences from the complete division of strictures that are deep-seated by internal or external operations.

Ten years ago, I witnessed in the Misericordia hospital of Rio de Janeiro, an operation upon an almost impermeable stricture of the urethra, with the instrument of Maisonneuve, in the hands of Dr. V. Saboia, the professor of surgery in the Imperial Medical Academy. He passed the largest lamina belonging to this urethrotome, and afterward a corresponding bougie was carried readily into the bladder. He then stated that no bougie or other dilator would be introduced into the urethra again until the subject came for inspection ten days afterward; and further insisted that when a stricture is completely cut through, as he had done in this case, there was no indication for the use of any means of dilatation, while the introduction of the bougie, or catheter, was invariably a source of trouble. When the subject of this operation presented himself ten days subsequently, he made the declaration that no difficulty had attended the passage of urine, and that no instrument of any kind had been introduced since that used immediately after the incision of the urethra. Dr. Saboia, on this occasion, carried the same large bougie into the bladder, with like facility as at the outset; and after the lapse of another ten days without interference, he passed it again, illustrating most conclusively that the preservation of the tract of the urethra, did not in any way depend upon the subsequent use of means of dilatation.

A new light beamed in upon urethral surgery from this case; and having observed frequently, prior to this, untoward results from the passage of catheters after division of the urethra with the instrument of Civiale, I determined to adopt not only the instrument of Maisonneuve, but to refrain entirely from the use of all means of dilatation subsequently.

During the past ten years, a number of close strictures, and some of them located at the bulbo-membranous division of the urethra, have been divided with the urethrotome of Maisonneuve, leaving the cases for ten days or two weeks, without interference, and then only using a large bougie a single time to verify the free opening of the canal. No case thus treated has failed to be completely relieved, without giving any of the disagreeable concomitants of rigors, fever, and local irritation which had formerly attended the introduction of bougies or catheters.

The most important feature of this operation is the entire division of the stricture in whatever division of the urethra it may exist.

If any explanation is requisite for the full comprehension of the principle involved in non-interference after incision, it may suffice to state that the contractile tissue composing the stricture, being completely divided at one point, draws away from this line on both sides, leaving a gaping open space, so that no union can ensue if left to heal by granulation of this raw surface. The use of dilating tubes of any kind is calculated to irritate this exposed surface, and expose the case to various troubles, with which all are unfortunately too familiar to require any enumeration in this place.

One other condition for the favorable result of this operation is, that the incision be made in the lower wall of the urethra, and not above, as has been practiced by a distinguished specialist and his followers in this country.

All the good results of dividing strictures may be secured by making the incision in the lower wall of the urethra, without risking the consequences of a deep incision above, and I cannot understand, with all the lights before me, why the division should be so often made by specialists along the superior wall of the canal. The reasoning presented by its advocates is not satisfactory, and the occasional unfavorable results of the practice do not recommend it to our confidence.

ACUTE GONORRHOEAL RHEUMATISM.

DR. GEORGE B. SHUTTUCK, visiting physician to Boston City Hospital, publishes the following in the *Boston Med. and Surg. Jour.*, March 13, 1884:—Dr. Davies Colley believes that several distinct affections are often confused together under the name gonorrhœal rheumatism, which he enumerates as follows:—(1.) *Gonorrhœal synovitis*, a chronic affection, occurring in the male, generally in the knee-joints. Very rarely it is acute, and goes on to

suppuration. (2.) *Gonorrhæal arthritis* (attacking especially the ligaments), an acute affection, occurring in the female quite as often as in the male; as a rule, attacking at the outset several joints, and afterward confined to one, most frequently the elbow-joint, affecting especially the fibrous tissues of the joint, and only secondarily the synovial membrane and cartilages. (3.) *Gonorrhæal inflammation of fibrous structures not connected with the joints*, for example, the plantar fascia, sclerotic, iris, the peri- and endocardium; this gonorrhæal inflammation of the plantar fascia sometimes occurs in the acute form. Inflammation of the first three structures usually occurs in connection with chronic gonorrhæal synovitis. In the last two situations inflammations seem to be generally associated with gonorrhæal arthritis.

With regard to the second class, his remarks are summarized in the following *résumé*:—(1.) It usually occurs during the acute stage of gonorrhœa, or some purulent discharge from the genital organs, in adult patients under middle age. (2.) It occurs as often in females as in males, if not more often. Of twelve cases recorded by the writer nine were in females. (3.) It may attack any joint, but most often the elbow-joint. Eight of the writer's twelve cases were in the elbow. (4.) At first it attacks several joints, like acute rheumatism, and then confines itself, as a rule, to one. (5.) Its seat is the fibrous tissue of the joint. There are great cedema, redness, pain, and tenderness. The ligaments are softened, and the cartilage may be disorganized. There is but little synovial effusion, and constitutional disturbance is but slight. (6.) It may be confounded at first with acute rheumatism, later on with phlegmonous erysipelas, bursitis, lymphangitis, phlebitis, gout, and pulpy disease of the synovial membrane. (7.) It rarely, if ever, suppurates, but is especially prone to set up fibrous ankylosis. (8.) The best treatment is to cure the discharge, keep the joint perfectly still, and apply uniform pressure as long as the acute stage lasts, and then to use passive motion.

PULSATILLA IN ACUTE EPIDIDYMITIS.

DR. L. E. BORCHEM, of Atlanta, Ga., in the *Jour. Outan and Ven. Diseases*, April, 1884, says:—Numerous disappointments in the treatment of this disagreeable and painful affection by the usual methods and the perusal of a few brief articles published in the journals at various times by Piffard, Sturgis, and Fox, of New York, have led me to employ experimentally the tincture of pulsatilla, and I am pleased to state, to my complete satisfaction, as in using this drug I found that not only was the relief its administration afforded more prompt than by the former methods employed by me (cathartics, poultices, rest, etc.), but that it completely did away with one of the most objectionable features of that treatment, namely, rest in bed.

The cases upon which I base these few remarks are twenty-four in number, all of which have been treated within the past eighteen months, and they were all in the acute stage of the disease.

Here we have a remedy which does not require so exacting a discipline, as I never found in all my cases any necessity for complete rest in bed, the only requirement being the wearing of a suspensory bandage, and taking of the medicine. The relief from pain usually takes place within three days. The preparation employed by me is the tincture of pulsatilla the dose being two drops every two hours. No benefit is derived from the use of larger doses at longer intervals.

HYDRONEPHROSIS.

By GEO. A. STAPLES, M.D., Chicago, Ill.

From an essay based upon the comparative study of seventy-one cases of that lesion, of which one case came under the personal observation of the writer, and published in the *Jour. of the Amer. Ass'n*, April, 1884:—The discrimination of an hydronephrosis from other abdominal tumors is more easy to make, and its discussion will be dismissed in a few words: In renal cyst the swelling does not change its position with that of the patient, in ascites it does;

echino-coccus cysts are distinguished by the hydatid fremitus, and if situated in the kidneys by the escape of hydatid vesicles in the urine; pyonephrosis usually gives more severe constitutional symptoms and causes recurrent rigors and signs of suppuration, the same being true of perinephritis and renal abscess; finally the "possibility of a horse-shoe kidney must ever be borne in mind" if from the symptoms an hydronephrosis be suspected, but the colon ascendens and descendens take their normal course.

The differential diagnosis between hydronephrosis and certain renal troubles that have somewhat similar clinical history is often attended with difficulty, and to facilitate matters, a diagnostic table, slightly altered from one devised by Dr. J. A. Ochterlony, is appended.

CANCER RENIS.

Generally unilateral tumor of enormous size.
Tumor stationary, does not move with diaphragm.
Runs a rapid course.
Well-marked cachexia setting in early.
Pain generally intense and rarely wanting.
Hæmaturia occurs in fifty per cent. of the cases.

HYDRONEPHROSIS.

Often bilateral, and of small size.
Tumor fluctuating.
Of chronic character.
No cachexia.
Regularly painless.
No hæmaturia.

CYSTIC DEGENERATION OF KIDNEYS.

Always bilateral.
Tumor soft solid, non-fluctuating.
In later stages, dropsy.
Hæmaturia.
Occurs in those over 80 years of age.
Tumor fairly well preserves shape of kidney.
Tumor slowly increases.

HYDRONEPHROSIS.

Often unilateral.
Tumor fluctuating.
No dropsy.
No hæmaturia.
Often congenital and in the young.
Tumor does not preserve shape of kidney.
Tumor often of rapid growth.

A neonatus with double hydronephrosis is never viable, and even in those congenital cases when only one kidney is involved, life is often cut short because of the pressure exerted on the thoracic organs. A unique case, however, in an infant, where existed atresia of both ureters with hydronephrosis of one kidney and cystic degeneration of the other, who survived 15 days, is recorded.

In those instances, where the malady is bilateral, the danger is proportional to the degree of atrophy in the renal substance, all cases being more or less quickly fatal; these patients are not usually confined to bed but a few days before death, which regularly takes place in a rapid and unexpected manner.

The prognosis in all hydronephrosis that are uninterfered with is, in general unfavorable. The natural sequence is traumatic or spontaneous rupture, (an accident observed in four patients by Prof. Simon) or suppurative inflammation followed by death.

A spontaneous cure with *restitutio in integrum* can never be expected, since a kidney so altered and atrophied can never perfectly recover and perform its functions.

No longer ago than 1870 an eminent surgeon (Rosenstein), wrote in regard to the treatment of this lesion: "Of therapy there can scarcely be any account; a careful avoidance of things hurtful to the other kidney must be the only problem. An opening of the hydronephrosis has been undertaken several times, partly with good, partly with bad results; chiefly it appears from diagnostic errors." And yet, but a few months earlier, an operation destined to revolutionize the surgery of the kidney was performed, for, on April 2, 1869, Prof. Simon, after a long series of experiments and careful study, first successfully practiced nephrectomy. Purely medical treatment has rarely been of much avail.

"The sum of medical doctrine on the subject amounts to this: Palliate where you can; do no mischief where you cannot." Every attention is to be

paid to the general health of the patient, and all matters of diet, hygiene, tonics for the body, and consolation for the mind, are to be administered to support the strength and cheer the spirits. The true method of medical treatment "is to seek temporary relief of urgent symptoms by rational expedients, and either to encourage a buoyant anticipation of ultimate rescue by operation, or to lead the patient by degrees into the usual quiescence of confiding resignation to the inevitable, by the adoption of the tranquilizing motto, *Cedo Deo*." [Spencer Wells.]

It is obvious that in the great majority of cases, for the radical cure of hydronephrosis, recourse must be had to the art of surgery, and it is a matter of sincere congratulation, as the data collected below by the writer show, that the experience of less than fifteen years has negatived the assertion, "Die operative Therapie der hydronephrosis hat bis jetzt noch keine glänzenden resultate geliefert."

The various operative procedures that from time to time have been practiced, may be resolved into two general classes: First, extirpation; second, the different operations to obliterate the cyst.

Again, broadly speaking, extirpation can be conducted in two ways—either through the peritonæum by abdominal nephrectomy, or extra peritonæum by lumbar nephrectomy.

RULES FOR EXAMINATION OF URINE.

During a private lecture on the pathology of renal diseases, Dr. H. F. Formad, of Philadelphia, gave the following practical points as "rules for examination of the urine."

1. Sediment in the urine has no significance unless deposited within twenty-four hours.

2. Albumen in the urine does not indicate kidney disease unless accompanied by tube-casts. The most fatal form of Bright's disease—contracted kidney—has little or no albumen.

3. Every white crystal in urine, regardless of shape, is a phosphate, except the oxalate of lime, which has its own peculiar form, urine alkaline.

4. Every yellow crystal is uric acid if the urine is acid, or a urate if the urine is alkaline.

5. Mucus, casts, pus, and epithelium signify disease of the bladder (cystitis) or of other parts of the urinary tract, as determined by variety of epithelium.

6. The urine from females can often be differentiated from the urine of the male, by finding in it the tessellated epithelium of the vagina.

7. Hyaline casts (narrow), blood, and epithelial casts signify acute catarrhal nephritis. Much albumen.

8. Broad hyaline casts and epithelial dark granular and oil casts signify chronic catarrhal nephritis. At first, albumen; later, less.

9. Hyaline and pale granular casts and little or no albumen signify interstitial nephritis.

10. Broader casts are worse than narrow casts, as far as diagnosis is concerned for the former signify a chronic disease.

11. The urine should be fresh for microscopical examination, as the micrococci will change hyaline casts into granular casts or devour them entirely in a short time.

12. Uric acid in the urine may in Trommer's test for sugar form a protoxide of copper, thus often deceiving the examiner in the belief that he has discovered sugar. Thus, when urine shows only a trace of sugar, other methods of examination, besides the Trommer's, must be used—preferably the lead test.

13. The microscope gives us better ideas of the exact condition of affairs in the examination of urine than the various chemical tests. Therefore, the time has come when every true physician should know how to handle a microscope.—*Louisville Medical News*.—*Gaillard's Med. Jour*.

CRYPTORCHIS, OR CONCEALED TESTICLES.

By S. E. VOORHEES, M. D.

In a paper read before the Miami Valley Med. Soc., and published in the *Cincinnati Lancet and Clinic*, May 24, 1884, Dr. Voorhees gives the history of the case of a man, fifty years old, one of twins, of good family, who has three brothers and two sisters married, and they all have children. He has been twice married and never had any children, although both women were healthy. When a boy he knew he was different from other boys.

At about fourteen he had the whooping-cough, and one day during a severe paroxysm of coughing he felt something dart from the right side of his back down through the abdomen, and stop on the pubic bone. It gave him some pain, and he put his hand there and felt a hard mass the size of a hen egg. He knew it was a testicle, and tried to push it down into the scrotum, but it gave him pain and he quit it. It now lies in the inguinal canal, behind and just above the pubic bone. The other testicle lies on the pubic bone and can be pushed back into the abdominal cavity. It has been there from his earliest recollection, and is much smaller than the other. He is about five feet ten inches high and weighs one hundred and fifty pounds, is well developed in every way, and has a strong manly voice and moderately heavy beard. He says he enjoys coition and performs an average amount. The semen is normal in amount, seems healthy, but microscopic examination reveals no spermatozoa.

Dr. Robert W. Johnson recently read a report before the Medical and Chirurgical Faculty of Maryland, which was published in the *Medical News*, April 26, 1884.

1. There may be supernumerary testicles, with which we have nothing to do. 2. We have the class of monorchids, or persons having only one testicle in the scrotum, the other in the abdomen, inguinal canal, perineum or thigh. One healthy testicle is sufficient for purposes of reproduction. 3. The cryptorchids are more rare: no testicle in scrotum on either side. These are further divided into (a) those who are actually devoid of testicles, or anorchids; (b) those whose testicles are both in the abdominal cavity or inguinal canals; and (c) those who are a mixture of the other classes, *i. e.*, have one testicle in the abdomen and one in the canal. Marshall states that monorchids occur once in eight hundred examinations, and cryptorchids once in twelve thousand. The latter are apt to be effeminate, beardless, or only having down upon their faces, and with a shrill voice. This is not always the case. There have been cases in which the wives never suspected anything to be wrong; in fact, some are extremely lascivious.

As a general rule the testicle is apt to suffer less in the abdomen than if in the inguinal canal. In the latter position it is much more exposed to pressure from various causes, often from an ill fitting truss, and it appears that malignant disease often attacks the testicle in this position. Are cryptorchids sterile? We must distinguish between sterility and impotence; the former implies inability to beget offspring, the latter inability to have sexual intercourse. They are certainly not impotent, but are apt to be sterile, though not necessarily so. The testicle in its abnormal seat may be affected with all the ills that affect it in its normal seat, orchitis, etc.

Dr. Johnson has prepared elaborate tables. In one case heredity was remarked where a monorchid begat a cryptorchid child.

Dr. Johnson then related a case of his own, which he brought before the Faculty. A young man thirty-three years of age, well developed, hairy, muscular, with deep voice and full chest. He was a perfect Lothario, and quite gloried in his amours. He claims to have had several children. His mother noticed that his scrotum was empty in infancy. The scrotum was found to be quite empty on both sides. On the first examination Dr. Johnson was able to feel the testicles presenting, but has not been able to feel them since. He examined the semen, found it lighter colored and more transparent than normal, lacking the usual smell, and devoid of spermatozoa. He had repeated the examination on several occasions and always with the same result.

As regards treatment, he said that if the testicle is retained in the abdomen, nothing can be done but to wait for its descent, and this may be hoped for by the end of the first year. If they are in the canal moderate and gentle traction is beneficial. The traction should be frequently repeated rather than continued for a long time on any one occasion. If traction is of no avail, return it to the abdominal cavity. If this cannot be done, protect it with a horse-shoe pad, and relieve the strain on the gland by an abdominal support. Keep the patient ignorant of his sterility.

SYPHILITIC AFFECTIONS.

CONSTITUTIONAL SYPHILIS.

By WILLIAM H. DRAPER, M. D., Prof. of Clin. Med. Coll. Phys. and Surge., New York.

The following is from a clinical lecture published in the *Med. and Surg. Reporter*, March 15, 1884:—In the clinical history of syphilis there are four stages, each marked by peculiar characteristics. First, the period of incubation, during which there are no symptoms; second, the stage of primary lesions, or the period of the chancre; third, the stage of secondary lesions, when the general eruption appears; and fourth, the tertiary period, or the period of gummy growths, and visceral lesions. You noticed in taking this man's history that I was careful to locate accurately the time at which he had his last chancre. And I find that the general eruption, which he now has, appeared at just about the right length of time after the primary lesions, to show that it is a secondary manifestation of the disease. But the particular point of interest in this case is the fact that the man thinks that he has had syphilis before. For he says that he had several sores, and a bubo two years ago. But it is not clear to me now that he has had syphilis before. The theory is, that a person who has had it once can not have it again, that he is protected from further attacks. I do not remember any case recorded of a second attack of syphilis. This man certainly had a sore on the penis, which was regarded as a chancre; but I must admit that I do not think that it was an infective chancre, for the man is now suffering from the secondary eruption of constitutional syphilis. You see, upon a close examination, that there are numerous small depressions on his skin. Now, I am willing to assert with great positiveness that these are not the cicatrices of a former syphilitic eruption, but that they are the cicatrices of an acne which has been produced by the use of iodide or the bromide of potassium. I infer, then, that it is pretty sure that this man never had constitutional syphilis, although he had had two chancres, until he contracted the chancre three months ago. So this is a very good case in favor of the theory of the dualists, that there is an infective and a non-infective virus.

A noticeable and important feature of this last chancre was that it was located within the urethra, and was what is called a concealed urethral chancre. You will often find manifestations of constitutional syphilis in patients who cannot remember that they ever had any primary sore. They may be honest in their statements, but there are cases where the primary ulcer has been deeply seated within the urethra, and it may have caused a urethral discharge resembling that of gonorrhœa, for which they mistake it.

The history or this man's present disease is a classical history of syphilis. There is only one point lacking, and in relation to this he cannot inform us. It is the length of the period of incubation, from the time of the suspicious connection to the appearance of the local sore. This is often difficult to make out. But in a great many instances it is easy to determine the length of the period of incubation. The usual period is found to be between two and four weeks, or from eighteen to thirty days, the average being about three weeks. But the chancreoid or non-infecting sore has no period of incubation. It may appear the next day, or two or three days after exposure. This is a capital distinction between a true syphilitic and non-infective sore.

Another distinction is that the infecting sore is generally single, while the non infecting are often multiple. Both may be accompanied by an adenitis, but that due to the infecting sore is not attended by a suppuration of the glands, and the chain of glands running down the arms, as well as those in the groins. And many other glands in numerous other places will be found to be enlarged and indurated. But the adenitis of the non-infecting chancre is a single unique adenitis, due to a localized inflammation, which has extended to the chain of glands in the immediate vicinity of the sores, and here the inflammation is liable to go on to suppuration.

The generalized eruption of the secondary stage usually appears in from one to three months after the appearance of the chancre. And the period of its continuance varies very much. It may be six months, or one or two years. And often a much longer period will elapse before the appearance of the gummy growths characteristic of the tertiary period of syphilis. The characteristic eruption of the secondary period is of the erythematous variety. It may occur also on the mucuous membranes, and it may be accompanied by a slight exudation from the papules, which are sometimes present. For we may get papules as well, and in all degrees. Or the eruption may be purely papular, or purely erythematous. Or it may be but scantily developed, or profusely generalized over the whole surface. As a rule the erythematous element is the more pronounced, however, while the exudation element is inconsiderable. But you observe that the eruption here is much more marked upon the back, and it has a peculiar character which might excite your suspicions of its being of syphilitic origin; that is, it is of a decidedly coppery color. You should not, however, lay too much stress upon the presence of an eruption with a coppery hue.

Sometimes the eruption does not occur upon the face and limbs, but it is confined to the anterior surface of the body. And in some patients it may be so insignificant as not to be noticed at all, and so they may not be cognizant of the fact that they have constitutional syphilis.

But it is not only the eruption and the adenitis which indicate the character of this man's disease, but it presents another interesting feature at this period of its development, and that is *fever*. This is the period of so-called syphilitic fever, and the thermometrical observations will generally show its presence. And it manifests itself not merely by elevated temperature and other objective signs, but also by the subjective phenomena of fever, such as headache, pallor of the skin, languor and drowsiness, rheumatoid stiffness, and pain in the bones, emaciation and so forth. These symptoms may extend over a period of several weeks.

What is the *prognosis* in this man's case? Is it necessary that he should pass on into the tertiary period of the disease, sooner or later? This I can not say. He may pass into it and he may not. The chances are that he will, but this is not certain. Many men go through the entire eruptive period, and then never suffer any more from the disease. But there are many more who do suffer afterward. Nor can we say how soon the tertiary symptoms will appear after the disappearance of the secondary. It may be in the course of twelve months, or in twelve years, or it may be never. It has been stated by some that a profuse generalized eruption is a more favorable sign than a sparse, or more papular one. But I do not think the truth of this fact has been well enough established as yet to influence our prognosis.

How shall we *treat* this man? In the treatment of constitutional syphilis mercury in some form is now commonly used. Both the mild chloride and the mild iodide have been much employed, as well as metallic mercury itself. Almost every practitioner has his favorite preparation, and mode of administering it. The protoiodide is ordinarily a very excellent preparation. If it produces digestive disturbances, diarrhoea, or colic, the trouble may be corrected by administering with a little opium. And, indeed, this combination is very common. The mercury is administered in the alterative form, in small repeated doses, with the idea of producing its specific effect on the gums. But it should not be carried so far as to ptyalize the patient profusely. However, you will often find great difficulty in ptyalizing a syphilitic patient. For syphilis seems to have a remarkable power of rendering

the individual insusceptible to mercury, and so, much larger amounts are required to produce pytalism than would be necessary ordinarily. The same is true as to the production of the specific effects of iodide of potassium, in tertiary syphilis.

There is another fact, gentlemen, which I wish to impress upon you, as it has so often been impressed upon me in connection with the toleration of drugs in disease. I refer to the fact of the intolerance of alcohol, which syphilis provokes in those who have it. I believe that it is now a well-established fact that a syphilitic patient can not use alcohol in any form without doing himself damage. And you cannot treat constitutional syphilis successfully if you allow the patient to use wine, beer, or spirits at all, while he is under treatment.

The patient has been treated with the oleate of mercury by inunction. The oleate of mercury is a much neater application than the old mercurial ointment. The hypodermic injection is a very good way of producing pytalism speedily.

Sometimes it may be necessary to give tonics in connection with the specific drugs. But as a rule mercury itself acts as a tonic, and improves the general system remarkably, and so precludes the necessity of iron or quinine for bitters.

CAN A MAN AFFECTED WITH SYPHILIS COMMUNICATE THE DISEASE TO A HEALTHY FŒTUS WITHOUT INFECTING ITS MOTHER?—CAN A MAN BEGET A SYPHILITIC CHILD WITHOUT INFECTING ITS MOTHER?

By WILLIAM R. D. BLACKWOOD, M. D., Neurologist and Electrician to Presb. Hosp., Philadelphia.

From the *Medical Times*, April 19, 1884:—A wide difference of opinion exists as to whether the fœtus in a pregnant woman, at any period during her term, can be infected with syphilis through sexual intercourse with a man having the disorder in some form, without either at the time of connection, or subsequently previously to her delivery, contaminating the mother, she being free from the malady before conceiving. Hunter believes that such may be the case; so does Blegny; and Nisbett and Laurence also hold the same opinion. Vidal reports the case. Plenty of authors might be quoted who maintain that syphilitic children may be born of women who are at the time of confinement, and subsequently, perfectly healthy, but they are mostly in "the long ago," and during the past twelve years the contrary opinion has prevailed among syphilographers. The later writings of Cullerier, Diday and other continental authors lean strongly towards the absolute belief that a syphilitic child must be born through an infected mother, and Sturges, an able and experienced authority, remarks that "whether future cases will be seen where the mother can be positively proved never to have had syphilis, and yet can procreate syphilitic children, is a point which no person can state with certainty. At any rate, all we can say now is that, with our present knowledge on the subject, the weight of evidence is against the theory that a healthy woman—by that I mean one who is free from syphilis—can beget syphilitic children."

Cases occurring in my practice during the last twelve years lead me to hold the belief that an affirmative answer may be given to the title of this paper, and in support of this opinion the following history is narrated.

Dr. Blackwood then gives the histories of three cases, and concludes his paper by saying:

My reading and observation for several years past have led me to believe, as stated in the outset of this paper, that the majority of syphilographers contend that in all cases children born syphilitic are the progeny of syphilitic mothers, the father not necessarily being diseased.

The three cases herein noted show, to my mind at least, that, first, a fœtus carried by a non-syphilitic mother and begotten by a non-syphilitic father

can be syphilitized before birth, and the mother escape constitutional taint; and, second, that a healthy woman may conceive through a syphilitic husband, give birth to a syphilitic child, and, notwithstanding, escape constitutional taint.

INFANTILE AND HEREDITARY SYPHILIS.

Dr. F. N. Orris holds that "true syphilis is never transmitted through the influence of tertiary lesions (sequelæ), nor from any cause, beyond the second generation." The chief characteristic of syphilis, as distinguished from its sequelæ, is the contagious property of its lesions. Strictly speaking there is no such thing as hereditary syphilis. Congenital syphilis is the result of contagion through the mother—such contamination of the fetus being possible only during the active stage of syphilis in the mother. The disease, by virtue of its adynamic character, vitiating the constitution of its parents, may determine different forms of mal-nutrition in children born to them after the subsidence of the disease. Bumstead and Taylor hold that syphilis is always transmitted as such, though the cachexia induced by it may predispose to scrofula, rickets, etc., *just as any adynamic disease may do.*

The course of syphilis contracted in intra-uterine life or during or shortly after birth, is similar to that in the adult, as the infection of the fetus may take place at any time in the period of gestation; the infant at birth may be suffering from the earlier or later manifestations of the disease, but true tertiary lesions (the syphilitic sequelæ) are never seen. These may occur later. Among such is dactylitis, with absorption of the bony structure. Here, too, may be classed the changes in the permanent teeth and the interstitial keratitis described by Hutchinson, though proof is wanting that these are essentially syphilitic in character.

Besides infection in utero, the infant may acquire syphilis from a recent initial lesion or from mucous patches developed later, or from a nurse, or as the result of circumcision or vaccination.

At birth the syphilitic infant may present the macular, papular (including mucous patches) and pustular eruptions, various degenerations of the viscera and the early lesions of the bones and of the nails. Pemphigus is regarded by Diday and others as an indirect result of the exhaustion due to syphilis. If it be the immediate result of syphilis it is the only exception to the similarity of the eruptions at every period of life. The "old man" look, due to a species of chloro-anemia, the roseola following the same course as in the adult, the mucous patches, when in the nasal passages, causing the snuffles, when in the larynx, causing the characteristic hoarse, croupy cry, are also to be noticed. As in the adult, it is only when the roseola appears that we have the first true syphilitic manifestations. This, with mucous papule, or other papular eruptions, establishes the diagnosis.

If not present at birth the syphilitic symptoms usually appear between the second and sixth weeks, very rarely appear after the third month.

Prophylaxis demands the interdiction of marriage during the active stages of syphilis. If, after marriage, the wife becomes syphilitic, or even pregnant, without symptoms of syphilis, mercury is to be used, preferably by inunction. Mercury is also to be used in cases of repeated abortions, due to an unknown cause; its efficacy is not to be considered proof that the parent is syphilitic.

For the infant the inunction method is to be used unless for very satisfactory reasons. In addition proper hygienic attention is indispensable. If inunction be impracticable, the child may be bathed twice daily in a solution of the bichloride. Internally the bichloride, $\frac{1}{10}$, $\frac{1}{20}$ gr., tid, or Hyd. c. Creta, gr. $\frac{1}{2}$, $\frac{1}{4}$ daily, or exceedingly small and frequent doses of the trituration of metallic mercury with sugar of milk may be used. The intestinal irritation caused by the internal use of mercurials renders the method vastly inferior to the external.—J. B. McMahon, M. D., in *Archives of Pediatrics*, March, 1884.

CHANCRE OF THE TONSIL.

By R. W. TAYLOR, M. D., Surgeon to Charity Hospital, New York.

In a paper published in the *N. Y. Med. Jour.*, May 24, 1884, Dr. Taylor says the clinical history of these chancres is as follows: The first appearances noted are redness and swelling, without perceptible induration. In the course of a few days these symptoms are accentuated, the redness is greater, the hypertrophy is more marked, and there is also superficial erosion of the organ. Then this exulceration may increase, and is usually accompanied by the appearance of a grayish-white coating, which may be very thin or thicker, and may be of granular appearance and irregularly distributed over the ulcer. The induration is usually well marked, sometimes even cartilaginous. It, of course, differs in accordance with the density of the tonsil. If the latter has been the seat of chronic hypertrophy, it will be hard and firm; if it was previously healthy, it may only be slightly indurated. The prominence of the organ in disease will in a measure also depend on its size and condition previous to infection.

The diagnosis rests between mucous patches and syphilitic ulcerated, sclerosed tonsils, in both of which the lesions will not be so sharply confined to one side, nor accompanied by such well-marked adenopathy. Again, the history of the case will often establish the late origin of the lesions. The subjective symptoms are more or less difficulty in swallowing, perhaps pain, and uneasiness on the affected side, swelling of the corresponding glands, parotid and submaxillary, and of the lymphatic ganglia. This swelling, besides being at first unilateral, is always out of proportion to that observed to accompany secondary and tertiary lesions.

The points of diagnosis are as follows: (1.) The details of the mode of infection, either from syphilitic sores, primary or secondary, chiefly about the mouth or face, and mostly by kissing; from infection by some article, such as a nursing-bottle, cigar, pipe, cup or the like; or from indulgence in bestial practices. (2.) The slow, unilateral development of the chancre, with corresponding gland and ganglion enlargement, so well marked. (3.) The limitation of the lesion to the affected side. (4.) The difficulty in deglutition, and even pain, which is referred to one side. (5.) The history of the evolution of the syphilis, the absence of chancre from other parts, especially the genitals, and the much less indurated condition of the ganglia seated elsewhere. Those that are seated at a distance may not be affected until near the date of the evolution of secondary manifestations.

SYPHILIS AND LOCOMOTOR ATAXIA.

By LEONARD WEBER, M. D., New York.

From the *Med. Record*, April 5, 1884:—Dr. Weber read a paper before the *N. Y. Acad. of Med.*, and reached the following conclusions:—(1.) There is not sufficient evidence to show that syphilis may be the direct cause of the typical form of locomotor ataxia, *i. e.*, posterior sclerosis of the cord. (2.) There is proof, and plenty of it, that syphilis produces certain lesions in the cord and its meninges as readily, if not as frequently, as in the brain. These lesions may be, and often are, followed by symptoms of (atypical) tabes. They are generally relieved by prompt and energetic specific treatment, but rarely cured. (3.) Experience has shown me that the tendency of the syphilitic virus to produce lesions in the nerve-centres occurs the sooner, the less its action is interfered with by judicious and prolonged treatment, although old cases of syphilis are, *ceteris paribus*, more apt to develop symptoms of neurosis than those of more recent date. (4.) As it has been shown by all observers that syphilitic lesions of the central nervous system once established are seldom really cured by specific remedies, we have additional reason to insist upon timely and long-continued treatment. It is also our duty to impart such information of the nature of the disease to the patient as will lead him to keep a strict and judicious watch over himself, and have suspicious symptoms attended to as early as possible. (5.) I believe a properly graded inunction-cure, with unguentum hydrargyri, in most cases of syphilis to be the best means of reducing the disease to early and harmless latency.

AFFECTIONS OF THE EYE.

ERRORS OF REFRACTION AND ACCOMMODATION, AND THE USE OF SPECTACLES.

By A. G. HOBBS, M. D., Prof. of Eye and Ear Diseases, etc., Southern Med. Coll., Atlanta, Ga.

The following is from the *Southern Medical Record*, March 20, 1884:—Should a person wear glasses when glasses enable him to see more plainly and are a source of comfort to him, is no longer a question, any more than it is a question that he should wear a brace in Potts' disease to support the weight of the spinal column from bearing down upon the diseased bone.

To wear glasses when glasses are beneficial is no longer considered "affected" or "foppish," any more than to use a cane when a cane assists a lame leg.

The old idea that one should postpone the use of glasses as long as possible, even at the sacrifice of comfort and good vision, and possibly of healthy lids or of perfect nervous functions, is long since exploded. The old adage was: "Refrain from glasses just as long as possible, because if you begin them you *cannot* leave them off." If, in the above reason, *will not* be substituted for *cannot*, it will come nearer the truth, since he who needs them and uses them *will not* give them up because of the comfort and assistance they render him, and not because he sees worse without them than he did before he began their use.

Anomalies of refraction and accommodation enter into the etiology of defective vision and many nervous derangements to a far greater extent than many practitioners conceive or will admit. It is unfortunate that the impression should prevail among so many that this subject is one of unusual difficulty. A moderate amount of application will render any physician able to, at least, recognize the difference between these and other causes of disturbed vision.

How the most natural eye, if kept reading or at close work for a long time, will feel tired and ache, and perhaps the letters will appear blurred, is explained by the fact that the muscles of accommodation have become tired, just as any other muscle will tire if overworked. Rest is the natural remedy; but, if this be out of the question, the next best thing is to place a pair of weak convex glasses (the number suited to each case) in front of the eye to lessen the necessity of so much accommodation.

In order that the effort of accommodation may be kept up for the greatest length of time without tiring the normal eye, two things are necessary: a good light, adjusted so that its rays may fall well upon the page, for instance, in reading, and the page should be held as far from the eye as perfect distinctness will admit. For example, when the "near point" is a distance of eight inches, prolonged adjustment cannot be sustained unless the page be held at 16 or 20 inches.

Dr. J. E. Harper says: "As a general rule, certain forms of visual defects and functional nervous diseases are in relation to each other as cause and effect."

When errors of refraction occur in children, they are more often overlooked than in adults, because such troubles are popularly believed to be peculiar to adult life. If the cause is not apparent, the child is accused of maligning or of inattention. When such troubles occur in children they should be immediately examined, the cause found and corrected; if not, application to books will intensify the trouble and it will grow worse as the child grows older.

Most all errors of refraction can be easily corrected if no other defect exists. We are often asked: "Doctor, can you not give me good sight in some other way than fitting glasses to my eyes?" A man with one leg might as well ask: "Can I not have my leg restored without having to use an artificial one?" Art made a long stride when she furnished the almost perfect artificial leg; but more good has been wrought since we have been enabled to

adjust glasses to almost any error of refraction in such a manner that vision is, in many cases, perfectly restored.

Physicians should endeavor to correct the erroneous popular impression that exists in regard to spectacles. Statistics have time and again proven that nearly one-fourth of the children in our schools have some anomalous refraction, and, since our present system of education has brought about this condition, it only remains for us to try to ameliorate the condition as best we can. Properly fitting glasses will not only often check the progress of a myopia or hyperopia in a child, but will often lessen the refractive error, so that after a few months or years they may be left off entirely.

Hitherto this knowledge of the surgeon and skill of the worker in glass have been, almost exclusively, of service only when the patient complains of visual troubles; henceforth, I am convinced that these visual troubles will be sought for in order to afford relief, for the protection against nervous affections.

CONTAGIOUS OPHTHALMIA.

By GEORGE S. MUNSON, M.D., Albany, N. Y.

The following is from the *Med. Annals*, March, 1884:—

In the field of ophthalmology, no subject is, perhaps, more important to both the general physician and specialist than that of contagious eye diseases. By contagious ophthalmia I mean all diseases in which there is a purulent or muco-purulent discharge from the conjunctiva, and this would comprise ophthalmia neonatorum, blennorrhoeic or gonorrhoeic ophthalmia, croupous and diphtheritic ophthalmia, and also the acute stages of trachoma. These diseases are all contagious, but that we need fear infection through micro-organisms floating in the air is highly problematical. There must be inoculation.

On October 28, through the kindness of Dr. Van Derveer, a gentleman of 21 years of age consulted me on account of a sudden conjunctivitis of the right eye. At this visit I failed to elicit an inoculation history. Directed iced applications and a zinc wash. The day following I was called to see him at his house, and found that by the advice of his father, who was a firm believer in home remedies, he had made use of three applications of a poultice of scraped potatoes, each poultice, as he informed me, making matters worse, the third being covered with a profuse greenish pus discharge, causing the most intense swelling of the lids and chemosis that I have every met with, accompanied by considerable pain, fever and general restlessness. The treatment adopted was confinement in bed, two faithful nurses, one for the day, the other for the night, application of leeches to the temple, constant application of iced compresses, atropine drops to be used occasionally, and careful cleansing of the eye every fifteen minutes with a solution of chlorine water; also a watch-crystal was applied over the left eye to protect it from inoculation. The general treatment was directed toward keeping the bowels open and reducing his fever. For three days the disease remained *in statu quo*. On the fourth day the swelling of the lids began to soften and the slight haziness of the cornea to disappear. I now ventured on the application of nitrate of silver once a day, containing in other respects the same line of treatment. The progress of the case was now quite gratifying and rapid.

Mild cases of inoculated ophthalmia are not infrequent, and, when taken early under treatment, usually three or four days will suffice for cure. For example, the night nurse of my first patient, through carelessness, inoculated herself, and, coming under immediate care, was soon well. Mild astringent of zinc and ice water application was all required. In regard to treatment, I concur with recent writers in advising the uninterrupted application day and night of iced compresses to the lids and the careful washing away of the secretion with a soft sponge dipped in a very weak solution of chlorine water, so long as the inflammation is at its height. As soon as the lids begin to soften and the palpebral and ocular conjunctiva to relax their firmness, while the discharge takes on a purulent character, I find weak solutions of nitrate

of silver to be the best remedy, and as the disease declines the iced applications are less frequently used, and zinc may be substituted for the nitrate of silver.

In reply to the question which I have often been asked, Why use iced applications in purulent contagious ophthalmia? I may say: By their uninterrupted use we have a most powerful means of removing continuously the heat of the part and so directly lessening the febrile action. Again, cold acts as a powerful irritant, forcing the blood-vessels to contract, and so decreasing the amount of blood carried to the inflamed parts, more than any other agent we have at our command; there is also caused such diminished sensibility of the parts as to afford very gratifying relief to the patient.

Dr. Herman Bendell's experience teaches me that when the patient is seen soon after inoculation that thoroughly cleansing the eye with frequent applications of a tepid solution of boracic acid (two to four per cent.), together with a weak solution of sulphate of zinc (0.2-30.0), applied once or twice daily, with such constitutional treatment as the condition of the patient may demand, will suffice. If the symptoms should become aggravated, the more heroic treatment, such as iced compresses, scarification, leeches and the use of mercurials, is employed. The stage and severity of the disease must govern the treatment; care should be exercised in endeavoring to do too much. Purulent ophthalmia presents itself under various forms and degrees of intensity and frequently of so virulent a character that, in spite of early and proper treatment and judicious management, the cornea breaks down, and the eye, so far as vision is concerned, becomes useless.

Many of our most eminent oculists do not hesitate to recommend free scarification of the chemotic conjunctiva in many forms of purulent ophthalmia. This procedure, I believe, should, when deemed of urgent necessity, be practiced with the greatest caution and its results carefully watched, for not infrequently granulations form on the scarified surface, which are apt to result in cicatrices, causing a continual irritation to the eye and thus developing disease of the cornea. In the diphtheritic form of conjunctivitis, the propriety of scarifying the tissue of the conjunctiva, owing to the possibility of diphtheritic deposits on the surface of the wound and a tendency to favor the development of gangrene, is disputed.

It is claimed that brilliant results have been attained in the treatment of purulent ophthalmia by the energetic application of continuous cold to the eyelids—that is, by placing small squares of several thicknesses of linen or muslin upon a block of ice, and when the same are thoroughly cold applying them to the eye, frequently changing and uninterruptedly continuing the applications. If the idiosyncrasy of the patient can tolerate, and the attendants or nurses be relied upon to faithfully carry out this form of treatment (for, in my opinion, to be of service, the iced applications when indicated, must be changed every few minutes during the day and night), this remedy will largely assist in curing the disease, especially when used in connection with such local treatment as may be indicated. Several of my patients have rebelled against this frigid treatment, and in two cases of gonorrhœal ophthalmia the continuance of iced applications for a longer period than fifteen minutes produced orbital pains of a neuralgic character, radiating over the head and face, greatly adding to the discomfort of the patient.

THE REMOVAL OF SMALL PARTICLES OF IRON OR STEEL FROM THE INTERIOR OF THE EYE BY THE USE OF THE ELECTRO-MAGNET.

By C. W. TANGEMAN, M.D., Assistant to Prof. Seeley's Eye Clinic., Cincinnati, O.

The following is from an article published in the *Cincinnati Lancet and Clinic.*, March 1, 1884:—Voltolini, of Breslau, publishes a very interesting article on the use of the electro-magnet in ophthalmology. The magnet has been used for the purpose of removing pieces of iron or steel from the inte-

rior of the eye since 1842, but to Dr. McKeown, of Belfast, is due the credit of reintroducing it and publishing a number of cases successfully treated in 1874, but he only used the permanent magnet. Hirshberg was the first to construct and use the electro-magnet in ophthalmic surgery. Voltolini summarizes as follows:

1. A very powerful galvanic apparatus is required.
2. It is not sufficient to have only a small electro-magnet, but a large one, capable of lifting twenty pounds is necessary, since
3. It may become desirable to magnetize the foreign body in the eye as soon as its presence is discovered, which is done by passing the instrument over the closed eyelid.
4. The small electro-magnet used in the operation must be constructed so as to be very powerful, and allow a changing of tips or points, whenever the nature of the injury requires it. The lifting power of the instrument diminishes as the distance from the coil increases.
5. Before every operation an effort should be made to move the piece of metal by the application of a powerful magnet to the eye-ball.
6. If this effort is successful, it assists us in locating the foreign body, and does away with the necessity of entering the interior of the eye with the instrument, since it can be drawn to the scleral incision and there removed by means of a forceps. The greatest difficulty seems to be experienced where the foreign body is very small. A powerful electro-magnet is capable of withdrawing a bayonet thrust into the body of an animal up to its hilt, while an ordinary needle could not be removed in the same manner; the surface of attraction for the magnet is so small.

AFFECTIONS OF THE EAR.

USE OF THE OPHTHALMOSCOPE IN THE EXAMINATION OF THE EAR.

By S. D. KENNEDY, M.D., New Orleans.

Where a specially minute examination of the external auditory canal and of the membrana tympani is desirable, the ophthalmoscope may be used with great advantage, as in the direct method of viewing the eye fundus both as to illumination and magnification. The membrana tympani is to be placed under the same optical conditions as the retina of a myopic eye. This is accomplished by holding immediately in front of the ear funnel (preferably one of Gruber's hard rubber) a convex lens with a focal length, somewhat less than the distance from the lens to the membrane. The membrane may now be examined with the ophthalmoscope by the direct method, which will give a brightly illuminated erect magnified image. Of course it will be necessary to place a concave lens, of the proper strength, behind the mirror, and this lens must be changed for viewing the different portions of the canal. This can be conveniently done with any ophthalmoscope supplied with a Rekoss disk.—*N. O. Med. and Surg. Jour.*, March, 1884.

THE "DRY TREATMENT" OF SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR.

By A. W. CALHOUN, M. D., Prof. of Eye, Ear and Throat Diseases in the Atlanta Med. College,
Atlanta, Ga.

The following is from the *Atlanta Med. and Surg. Jour.* March, 1884:—It is a very common custom for physicians to direct in the above disease that the ear "be syringed several times daily till the discharge ceases." The fact that absolute cleanliness is a *sine qua non* in the cure of this affection natur-

ally leads to the conclusion that water must be used much and often. For a long time I held to this view myself, until actual observation and experience suggested to me that water could be used to an extent that hindered rather than aided a cure, and taught me a plan of treatment most satisfactory to myself and beneficial to my patients.

While the syringe has been too much and too often used, it cannot be dispensed with altogether, for in its place it is a very valuable adjunct in the treatment of discharges from the middle ear. But in the hands of the ordinary nurse or attendant, the water is improperly thrown into and down the external auditory canal.

The plan I have found most serviceable is as follows: The patient must supply himself with a good ear syringe (one ounce gutta percha syringe with a bulb nozzle) and a quantity of absorbent cotton, and the attendant must be taught the proper use of both. For the first few days the ear must be syringed with warm salt water twice daily, and mopped to thorough dryness immediately afterward by means of the absorbent cotton twisted upon and overlapping the end of a match. This close attention to cleanliness usually diminishes the discharge in a few days, when the ear should be syringed *only once daily*, but the absorbent cotton should now be used every few hours, so as not to allow any of the constantly forming pus to remain in the external auditory canal at all. The patient himself, if not too young, can be taught to use the cotton, when he can carry some in his pocket and mop the ear almost every hour in the day. At this point in the treatment, the use of astringent and disinfecting powders comes best into play. I usually prescribe the pulv. boracic acid (unless MINUTELY PULVERIZED it is worse than useless), and pulv. alum with just enough of the powdered lycopodium in it to keep it dry. An intelligent nurse can be easily taught the use of these, otherwise it is the best for the physician himself to apply them.

Syringe the ear, for instance, each morning with warm salt water, and mop it with the absorbent cotton till the cotton comes out free from moisture. Then turn the head upon the side so as to have the auditory canal looking directly upward, insert the speculum and pour in the powder, and gently, but firmly, pack it to the bottom of the canal with a large knitting needle, or probe of any kind, and hold the powder in place by means of a little cotton. If toward noon or night the cotton becomes wet with the discharges, the ear should be again well dried with the absorbent cotton and refilled with powder, repeating the same thing each day, and several times daily if necessary. It is well to alternate with the two powders above mentioned, using each two or three days, because the ear soon gets accustomed to the one and its good effect is somewhat lost; moreover, it is said that the too long use of the alum powder will produce furuncular inflammation in the auditory canal.

Few ears will resist the persistent use of this treatment, but now and then a case will present itself which requires some modification in its management. In such cases I combine with the above treatment that of some astringent fluids. In a case which had resisted the careful and vigorous treatment with the powders, etc., I would give the following directions to my patient: On retiring at night, mop the ear well, then pack it full of the powder. On the following morning, syringe it if necessary, and use the absorbent cotton, then fill the canal with warm tincture of myrrh and glycerine (equal parts), combined with sulphate of zinc; or substitute listerine for the tincture of myrrh and use in the same way. At noon do the same thing, and at night repeat the powder. In the meantime the patient must be constantly drying his ear by means of the absorbent cotton. Almost from the moment the powders are used, the offensive odor from the most fetid discharge ceases, and one of the most disgusting features in the case is happily disposed of.

While the partially "dry treatment" is most excellent, I would advise against any one becoming so wedded to it as to lose sight of the fact that certain cases will require the more frequent use of the syringe than others, and again, to discard the syringe is to throw aside the means of *absolute cleanliness*, without which a cure, by whatever mode of treatment (except mere accident), is simply out of the question.

AFFECTIONS OF THE SKIN.

THE OLEATES IN CUTANEOUS DISEASES.

By HENRY W. STELWAGON, M. D., Instructor of Dermatology in the Univ. of Penn.

The following is from the *Med. and Surg. Reporter*, March 15, 1884:—The oleates must be looked upon as valuable additions to our means of treating diseases of the skin, and although they do not answer in all cases, or supplant the older and tried methods of dermic medication, yet they have proven of such value in a number of instances as to warrant their further trial and experimental use.

Oleate of Mercury.—In color, yellowish, sometimes adhesive, and of the consistence of ointment, with an oily odor. If pure, diaphanous and of a yellow color, but generally found of a grayish or greenish hue, showing the separation of mercurous oxide and metallic mercury.

Applied to the sound skin, this oleate produces more or less redness and irritation, and if its use is continued, may cause a dermatitis. It is rarely prescribed in full strength, but usually one part to from one to three parts of oleic acid or lard. Of all the oleates, this is not only the most important, but one that has been longest in use.

It has its principal field in the treatment of syphilis by inunction, and when employed for such purpose is efficient and cleanly, completely supplanting the old method of inunction by blue ointment. For this purpose, the oleate should be diluted with oleic acid, lard, or a combination of the two. A prescription made up as follows will answer admirably.

R. Hydrargyri oleatis, 3 iij; acid oleici, 3 ij; cerati simpliciæ, 3 iij. Ft. ung.

A portion of this ointment of the size of the terminal joint of the forefinger suffices for an inunction. For each application a new surface should be selected. As the oleate ointment is more irritating than the old mercurial ointment, and as it is, also, more readily absorbed, less friction should be employed, and the hairy and more delicate portions of the skin should, as far as possible, be avoided.

It is applicable in all syphilitic eruptions, ulcerative or non-ulcerative.

Ordinarily, an ointment made up of one part of the oleate to four parts of benzoated lard will be found sufficiently active.

In chronic ringworm of the scalp, as a rule, it is, I think, more reliable than any other remedy, failing at times in obstinate cases, as do all other remedies, but in the majority of instances curing. In recent cases, twenty per cent. ointment or solution will be effective; if the disease has existed a long time, a thirty, or even forty per cent. ointment may be employed. It is to be well rubbed in twice daily, and the head to go unwashed for a week or longer. Treatment, if it is to be permanently successful, must be continued for several months. Epilation, as in all other plans of treatment, is to be persistently practised. A combination which will be found useful in these cases is the following:

R. Hydrargyri oleatis; picis liquidæ, aa 3 ij; ung. sulphuris, 3 iv. Ft. ung.

It is to be applied morning and evening. As there is a tendency to chemical change, a quantity sufficient for a week or two only should be made at one time.

In all skin diseases in which ointment of red precipitate, white precipitate and calomel are employed, this oleate, properly weakened, may often be substituted with advantage.

All indurations, swellings, and glandular enlargements, may occasionally be favorably influenced by applications of a mild solution or ointment.

In pediculosis capitis, and more especially in *pediculosis pubis*, a twenty-five per cent. ointment of this oleate will often prove curative.

The mercury oleate, in some instances, may be advantageously combined with the other oleates.

Oleate of Zinc.—Dry, white, pulverulent, impalpable powder of a soapy touch, resembling powdered soapstone; if pure, should make a clear solution

with oils, lard, etc., over a water-bath. It may be used either as a dusting powder, or as an ointment. An ointment of one or two drachms to the ounce of cosmoline or any fatty base is most commonly used. Sometimes the oleate made up in an ointment form with oelic acid seems to be more efficacious. A very good way of prescribing it is as follows;

R. *Zinci oleatis; acidi oleic, ss 3 j; petrolati; cerati simplicis, ss 3 iij. Ft. ung.*

To a great extent this oleate replaces the oxide of zinc, and may be ordered whenever that substance is indicated. Acute vesicular eczema may be successfully treated with the application of black wash and the subsequent application of an ointment of oleate of zinc. In some instances, the disease seems to be more favorably influenced by the oleate employed as a dusting powder. When such is indicated, the following will prove an eligible formula:

R. *Pulv. zinci oleatis; talci veneti, ss 3 iij; amyli, 3 ij. M.*

This is to be dusted over the parts several times daily. The same plan of treatment is frequently of advantage in all weeping eczemas. In intertrigo, a dusting powder, such as given above, is very comforting. The oleate makes a harmless toilet powder, and combined with talc and calamine, as in the formula below, will make an excellent powder for such purpose:

R. *Calaminæ præparatæ, 3 ij; Talci veneti; zinci oleatis, ss 3 vij; olei rosæ, q. s. M. S.—Toilet powder.*

This last may also be employed as a dusting powder in moist eczema and similar inflammations.

Oleate of Lead.—Yellowish-white in color, much resembling lead plaster, but somewhat harder and more brittle. A good ointment is made by melting with an equal part of oleic acid, vaseline or lard; as such it makes an excellent substitute for Hebra's litharge ointment, and will keep for an indefinite time. It is protective, astringent and sedative, and may be prescribed whenever such an ointment is called for. In *syncosis non-parasitica*, the following formula will often prove of advantage:

R. *Zinci oleatis; bismuthi oleatis, ss 3 j; plumbi oleatis, 3 ij; adipis, 3 iv. Ft. ung.*

This is to be applied to the parts twice daily, after thorough cleansing with warm water.

In eczema about the anus, this oleate ointment sometimes give relief.

Oleate of Bismuth.—Pearly-gray in color, smooth, and of the consistence of ointment, and should show no trace of suspended solids when rubbed on the skin. This oleate is generally applied full strength, and is indicated in all cutaneous affections in which a soothing ointment is required. One of the best soothing ointments that may be prescribed, is the following:

R. *Zinci oleatis; bismuthi oleatis, ss 3 ij; ung. aquæ rosæ, 3 iv. Ft. ung.*

This is to be rubbed over the parts or applied spread upon muslin as a plaster. In burns and scalds it will often be found of value.

Oleate of Aluminium.—In color, light yellow, of plastic consistence, and somewhat adhesive. For application, it should be melted with an equal part of a fatty base, such as lard or cosmoline. It possesses an astringent action, as well as being somewhat stimulating. It may be prescribed in all skin diseases in which there is much discharge, such as dermatitis, pustular eczema, etc. An excellent ointment for such cases is the following:

R. *Hydrargyri chlorid. mit., gr. xx; aluminii oleatis; petrolati, ss 3 ss. Ft. ung.*

Oleate of Copper.—In color, dark green, occurring both in the granular and solid forms, and possessing a slightly oily odor. For dermic use it should be melted with from two to six parts of lard, oleic acid or vaseline. Such an ointment is astringent, decidedly stimulating, and more or less destructive to the vegetable parasites. Its principal application has been in the treatment of ringworm of the scalp. A twenty per cent. ointment may be used in this disease, and it should be rubbed in once or twice daily. Its color serves to render its use unpleasant.

In ordering the oleates, several points are to be kept in mind. If the action of the proposed ointment is to be mainly protective, then the oleate is best made up with one of the paraffinates; if there is to be a certain amount

of penetrating power along with a protective influence, then a mixture of lard or oleic acid with a paraffinate is to be prescribed as the base of the oleate ointment; again, if absorption is the main point aimed at, then the oleate compound should be made up of lard, oleic acid, or a combination of the two.

In some cases (and they are by no means few) the oleates are found to disagree.

DIFFERENTIAL DIAGNOSIS BETWEEN PAGET'S DISEASE AND ECZEMA OF THE NIPPLE AND AREOLA.

PAGET'S DISEASE OF THE NIPPLE: ECZEMA OF THE NIPPLE AND AREOLA:

- | | |
|---|---|
| 1. Occurs especially in women who have passed the grand climacteric. | 1. Occurs especially in women earlier in life, and particularly during lactation, or in persons laboring under scabies. |
| 2. Affected surface in typical cases, of brilliant red color, raw and granular looking after the removal of crusts. | 2. Surface not so red and raw-looking, and not granular, but often punctated. |
| 3. When grasped between the thumb and fore-finger, superficial induration often felt, as if a penny were laid on a soft, elastic surface, and grasped through a piece of cloth. (Thin.) | 3. Soft, and no induration. |
| 4. Edge of eruption abrupt and sharply cut, and often elevated. | 4. Edge not so abrupt, and certainly never elevated. |
| 5. Very obstinate, and only yields to extirpation or other treatment applicable to epithelioma generally. | 5. Although sometimes obstinate yields to treatment applicable to eczema. |

—*Amer. Practitioner*, March, 1884.

THE TREATMENT OF ECZEMA.

By HENRY J. REYNOLDS, M.D., Prof. of Dermatology, Coll. of Phys. and Surgs., Chicago.

The following is from an article published in the *Chicago Med. Jour. and Examiner*, March, 1884:—Perhaps all cases presented for treatment may be intelligently managed by dividing them into three classes: First, those the features of which are mainly of an *acute* character; second, those forms wherein the predominating features are *subacute* in type; and third, that class of cases that take on the indolent or *chronic* form. The treatment may then be arranged accordingly; always subject, however, to constant variations according to conditions warranting the same.

Acute.—In this form of the disease, soothing measures usually give the best satisfaction. The effect of water and atmospheric action upon a surface of this kind, seems usually to be injurious, and to fulfil the indications in this case, the different oleaginous preparations generally answer the best purpose. To envelop the part in a lotion of equal parts of oleum amygdalæ dulcis and aqua calcis, in certain cases, works admirably. The oleum olivæ or oleum lini may be substituted for the oleum amygdalæ. Various poultices answer as well or better in some instances. They may be made of linseed meal, ground slippery elm bark, etc., and in order to do the most good, should be applied hot or warm, and allowed to remain as long as possible without changing. By covering them with oiled silk, they will retain the heat longer, and thus obviate the necessity of a frequent changing.

Subacute.—In this class of cases, which may assume this form from the beginning, or may follow the acute, the various dusting powders, certain soothing and mildly stimulating ointments, etc., are useful. Lycopodium, carbonate of magnesia, bismuth, oxide of zinc, boracic acid, camphor, alkaline remedies in the form of soap, iodoform and salicylic acid, alone or in

various combinations and proportions, or combined with certain mild unguents, as ung. aquæ rosæ, ung. petrolati, etc., will be found among the more useful of this class of remedies. For instance:—

R. Zinci oxid., 3i-ii; pulv. camph., 3ss-i; pulv. lycopodii., ʒi. Sig.—Apply twice or three times a day, after cleansing with soap and hot water.

R. Pulv. iodoformi, grs. x-xx; zinci oxid., ʒi; ung. aq. rosæ vel petrolati, ʒi. M. Sig.—Apply two or three times a day.

The camphor and oxide of zinc are particularly useful if an antipruritic effect be required. Soap in this stage should be only mildly alkaline, some of the hard or soda soaps being rather the preferable form. It should again be borne in mind that during the treatment of this stage the symptoms may at any time assume either the acute or chronic forms, and necessitate a variation of the treatment accordingly.

Chronic.—In this form, which may be chronic from the commencement, or may follow the preceding form, more active and stimulating measures are required. The soaps which, in this stage, are used for their stimulant and antipruritic effect, dissolving and getting rid of pathological products, which create irritation, induce pruritus, prevent physiological action, etc., should be of the strongly alkaline or potash variety, and should be freely used. The different tarry preparations seem to be among the more beneficial remedies in this stage. The application of clear oxide of zinc, boracic acid, etc., in powder, governed according to the particular condition of each case, answers a good purpose. If there be considerable exudation with a tendency to pus formation, and not bright redness of the surface or acute symptoms, the application of clear boracic acid in fine powder, after washing with sapo viridis and hot water, twice a day, works admirably, especially so in eczema of the leg with venous varicosity and infiltration, the powder being then secured by application of a snug bandage, rubber, with loose cloths interposed between it and the leg being in most cases preferable. The tarry preparations may be used in the form of lotions or ointments, the latter, however, being preferable if much excoriation or fissures exist, in a manner similar to the following:

R. Picis liquidæ, ʒi; saponis viridis, ʒii; spts. lavandulæ, ʒii; spts. rect. ad., ʒviii. M. Sig.—Apply with friction three times a day.

R. Olei cadini, ʒi; acid boracici, ʒi; ung. aq. rosæ vel ung. petrolati, ʒi. M. Sig.—Rub gently into the skin three times a day.

The pix liquida or the oleum betullæ albæ may be substituted for the oleum cadini.

Absolute cleanliness should be enjoined in all stages when practicable. In eczema of the scalp where the part is liable to be covered with crusts and scales, they should be first removed by soaking with oily preparations, washing, etc. The treatment may then be adapted to the condition as in other localities. Compression, by means of plasters, is useful in many chronic and subacute cases where the condition, or location, render the application of a bandage inadmissible.

Constitutional.—While it may be conceded that in the majority of cases the treatment must be mainly external in character, it is, nevertheless, essential that the general system be kept in a condition that will necessarily favor the desired reparative process. For this purpose, it is quite probable again, that no specific line of treatment can be laid down that may be suitable in each and every case. Arsenic may be tried in the dry, or squamous varieties, if other measures fail. In the pustular or other forms, wherein a pyogenic tendency exists, the sulphide of calcium is well worthy of a trial and sometimes works admirably. It may be given in doses of from one-tenth to one grain three times a day.

ELEPHANTIASIS; LIGATION OF THE FEMORAL ARTERY.

From the proceedings of the *N. Y. Surg. Soc.*, April 23, 1884:—Dr. L. A. Stimpson, presented a woman whose femoral artery he tied four weeks previously for elephantiasis of the leg.

She was fifty years old, and had always been healthy. Twelve years ago she had an attack of erysipelas in the foot, which soon got entirely well, but was followed after a month by another in the right leg, which left the limb somewhat swollen; other attacks followed at intervals of two and three months for several years, leaving the limb larger, after each attack, than it was before. She was admitted to Bellevue Hospital, March 4, 1884, with well-marked elephantiasis of the entire right leg from the knee to the ankle, both the foot and thigh being very œdematous and the skin normal. She was kept in bed, firm pressure made on the leg by a roller bandage over a layer of cotton, and an elastic bandage kept upon the thigh. After about three weeks of this treatment the œdema had left the thigh, but the leg was unchanged, and still measured twenty-three and a half inches in circumference. The other leg measured eight and a half inches at the calf. March 24, the femoral artery was tied at the apex of Scarpa's space with catgut, and the limb wrapped in a thick layer of cotton. April 2, the dressing was changed, and the wound found healed; the leg measured twenty-one inches and the foot was much less œdematous. The rubber bandage was then applied snugly to the leg over a layer of cotton, and has been used constantly to the present time, and the patient kept in bed. April 4, the leg measured seventeen inches; April 8, fourteen and three-fourths inches; April 12, twelve and three-fourths inches; and that is its present size.

Dr. Stimson thought it quite probable that the ligature and the bandage employed in concert had done much more than either would have done alone.

Dr. Post had a case, several years ago, of commencing elephantiasis, in which great benefit followed continued pressure from the bandage. The disease was in its early stage. There was an approximation to an apparent cure.

Dr. Briddon saw a case, in the New York Dispensary, several years ago, in which there was considerable doubt as to whether it was a case of obstruction of the lymphatics only, or one of true elephantiasis; but, at all events, marked benefit was afforded by the application of bandages wet with soda water. If his memory served him correctly, Dr. Carnochan was the first who treated cases of this kind by ligation of the femoral artery.

Dr. Little said that in Dr. Carnochan's case only temporary relief was afforded.

Dr. E. L. Keyes said that the opinion of dermatologists was against ligation of the femoral artery in the treatment of elephantiasis. The twelfth case operated upon was reported by Dr. Buchanan in the *British Medical Journal*, 1867, p. 465, who reported that nine had been cured; in two improvement occurred, and a third patient died of pyæmia from the operation.

In the *Deutsche Zeitschrift f. Chirurgie*, 1876, thirty-two cases were reported. Of these, there were twenty-three in which ligation of the femoral artery was performed, and of the twenty-three cases there were relapses in all except three. The consequence is that the operation is looked upon as one which may afford rapid amelioration in all cases, perhaps, but it does not give a permanently favorable result. Dr. Carnochan's case (*American Journal of the Medical Sciences*, July, 1867, p. 109), was one of elephantiasis græcorum, which differed materially from elephantiasis arabum, the malady treated in Dr. Stimson's case, and in most other cases of ligation.

Another case had been reported by Dr. Van Zetti (*Gaz. des Hôp.*, No. 144, 1876, p. 572), in which the femoral artery was tied. A starch bandage was applied, and the patient was directed to go home, and to keep up the pressure by means of such a bandage for some time. At the end of three years the patient returned, having kept up pressure by means of the starch bandage continuously for the entire time, and the result was that the disease had become permanently cured, and the limb was somewhat smaller than its fellow. Dr. Keyes thought that it would be proper to apply pressure, not only to reduce the œdema, but for the purpose of maintaining continued pressure to prevent the disease from starting afresh. So far, then, as the present evidence stands, it is to the effect that the operation always gives benefit, but, generally, it is temporary.

MIDWIFERY.

AND DISEASES OF WOMEN AND CHILDREN.

THE USE OF ETHER IN OBSTETRICS.

By CASEY ALBERT WOOD, C.M., M.D., Prof. of Path., Med. Faculty, Univ. of Bishops Coll., Montreal

The following is from the *Canada Medical Record*:—Until about a year ago it was my invariable rule to employ chloroform in midwifery, not only for the alleviation of pain during the first and second stages of labor, but also for the performance of any of the operations incident to obstetrics. Since that time I have considered it advisable to modify my practice in some respects and to substitute ether, and in this paper I propose shortly to give my reasons therefore.

In those cases where relief is called for in the first stage of labor, examples of which are most commonly found among primiparae, where a slowly dilating or rigid os is represented by sharp pains, nervous excitability, inability to sleep, and, after a time, by exhaustion, I have usually been able to succeed in quieting the patient and obtaining rest by giving her a full dose of chloral; or, if that fail, by administering a few doses of morphia. After a few hours of quiet, dilatation proceeds more quickly, and by the time the effects of the opiate have passed away, the labor has progressed to the second stage. In the beginning of October, however, I had a patient who refused to exhibit this satisfactory phase of affairs. I had a bottle of Squibb's ether with me, and I proceeded to administer the anæsthetic in the usual intermittent way. I noticed, however, that the effect produced corresponded mainly to the *interlulls* between the pains, and while it quieted her and gave her some sleep, it did not "take the edge" off the pains as chloroform had previously done in my hands. As I walked home that night I felt that in that particular instance it would have served my purpose better to have given chloroform. The writer then relates a case which illustrates his average experience in the use of ether in the second stage of labor, and then says:—Where the pains are sufficiently severe, and the condition of the patient such as to warrant it, ether—good ether I mean—seems to me to furnish all the satisfactory results, both as regards its present and remote effects, that chloroform does, provided you give it slightly in anticipation of the pains.

I have had a number of cases of severe hemorrhage following the administration of chloroform given to produce complete anæsthesia while the forceps were used. So much so has this been the case, in my experience, that I have always looked out for at least a smart temporary post-partum bleeding, and usually found it. As far as I can judge from the small number of cases where ether was given, I do not think such hemorrhage has been as frequent or as troublesome.

Last summer, however (and this is the only instance where I felt alarmed at the loss of blood following the administration of ether), I applied the forceps to and safely delivered a multipara of the lax-fibre variety, whose uterine fibres refused, during the whole labor, to respond to the stimulus of ergot and quinine.

In this case there was much anæmia, resulting from the large loss of blood following the relaxation of the uterus after a primary contraction which expelled the placenta.

Dr. Wood gives other cases, and says:—Without multiplying the record of these cases, valuable only as bearing on the question at issue, I would recount the relative merits, *med sententia*, of chloroform and ether in obstetrics something as following: (1.) Owing to the agreeable odor, early effects, and perfect safety of chloroform as an anodyne agent, it is, without the least doubt in my mind, the agent best suited to alleviate the pain and calm the nervous irritability incident to the first stage of labor. (2.) This statement is generally true of the expulsive period, where complete abolition of pain is not the object of the administration. (3.) When, however, complete anæsthesia is required, as we find it necessary during the delivery of the child, and for the performance of operations following or preceding delivery, then it seems to me that chloroform largely loses its character as the obstetrical anæsthetic *par excellence*.

If it be acknowledged that considerations of safety must give way, in general practice, to greater conveniences of administration, etc., then, too, in the operations of midwifery, ether must supplant chloroform. If it can be shown that there is anything about the parturient woman which renders her less susceptible to danger during chloroform inhalation which does not equally apply to ether, then the force of this argument is much lessened. So far as I know, this peculiar immunity does not exist. We know that it is in the practice of midwifery that the use of anæsthetics is considered less dangerous. By a process of natural selection, as it were, we then have women in the prime of life generally free from disease, with all their nutritive functions in good order—they naturally form the best class of patients to which any anæsthetic could be given—and this aside from the theories commonly put forward to explain such immunity from accident, such as increased cardiac development, the physiological cerebral congestion guarding against syncope, brought about by the effects of the uterus to expel its contents, and so on.

Other considerations may serve to modify these conclusions in the minds of practitioners, such as the inflammable nature of ether and its explosive quality when mixed with a certain percentage of atmospheric air, etc.

In my experience, vomiting is of as frequent occurrence after the use of ether in midwifery as of chloroform, and I do not think it occurs very often in either case. I think it will be generally admitted that, in view of the danger from post-partum hemorrhage, danger to the child and inherent danger to the mother, it would be more advisable to give ether, for its general anæsthetic effects for a long period, say an hour or longer, than to give chloroform for a corresponding period. I have here to refer to the matter I have just spoken of—the confidence with which, in view of its greater safety, the administration of ether can be given over to the nurse or to anyone whom the exigencies of the case have left in the possession of her faculties.

In country places this rule applies with greater force than it does to city practice; but in such cases it seems to me that ether possesses considerable advantage over chloroform. Finally, in labors fatal to the mother, where an anæsthetic has been employed for any length of time, it may be a relevant question to ask, would it not be a satisfaction to know that ether had been given and not chloroform?

OBSTETRIC APHORISMS.

The following aphorisms have been revived from Dr. Blundell's lectures on midwifery. The quaintness of the language may interest as much as the directions may instruct:—

"Aph. 1. *The Rude Midwifery is a Bloody Idol.*—Floodings, tremendous lacerations, inversions of the uterus, like those which now stand on the table before you. Such are the effects of obstetric violence, that unsatiate and gory Moloch, before whose bloody shrine so many thousands have been sacrificed, to be succeeded, in future years, by still more numerous victims.

"Aph. 2. *That the Placenta is to be Seduced.*—Do not haul out the placenta; do not jerk out the placenta; do not tear out the placenta, leaving unobserved one-half of it in the cavity of the uterus. Do not lacerate and

leave the membranes to form afterward a receptacle for clots, or to alarm the patient by their unexpected appearance. *Arte non vi* must, as usual, be your device: lead, coax, seduce.

"Aph. 3. *Do not go Away and Leave a Second Child Behind.*—I am afraid that some one here present, notwithstanding the cautions of the morning, will hereafter remove the placenta when there is another fœtus in the uterus. He smiles, he bows, he retires; another child is born. Which of you all means to signalize himself by this dangerous folly?

"Aph. 4. *That by Removing the Placenta Asleep You may Invert the Uterus.*—Practitioners have sometimes unconsciously inverted the uterus, leaving it in that condition, an accident which can never happen to you, provided you forbear to remove the placenta till the womb be contracted. You may, however, drowse sometimes on the bedside, as on these benches, and in these torpid and forgetful moments carelessly abstracting the placenta, inversions may occur.

"Aph. 5. *An Accoucheur's Atrocious Member.*—Depend upon it if you do carry your hand in the uterus, on every occasion, to get away the placenta, some woman will die at last, and die the victim of your mismanagement. At this moment, perhaps, some amiable but ill-fated creature blooms, the life and light of her admiring circle, who must hereafter fall an untimely sacrifice to some cruel and ruthless arm now drowsily crossed in this theatre. Which of you is the owner of this atrocious member?

"Aph. 6. *Three Places where the Atrocious Member must not be Put.*—(Dr. Blundell shows preparation.)—Do not needlessly thrust the hand into the uterus; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Do not needlessly thrust the hands into the vagina; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Do not needlessly pass the hand into the genital fissure; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Ah! the violence of an ignorant and savage hand!

"After examining these preparations, tell me is it too much to assert that in obstetrics a thrust of the hand is more dreadful than a thrust of the bayonet? Could the field of Waterloo exhibit injuries more dreadful than these?

Readers of Swain's "aphorisms" can compare and note the difference of style. Dr. Blundell's pupils must have been somewhat different from the young gentlemen of the present day.—*The Medical Age.*

ERGOT IN OBSTETRIC PRACTICE.

From an editorial in the *Canada Lancet*, March, 1884:—The place which ergot holds in obstetric practice at the present time is in marked contrast with the teaching and practice of a few years back. It is not long ago since ergot was given to the parturient woman in the most hap-hazard manner. Indeed there is room for the belief that some fossils in the profession continue to use it in that way still. Of course it has long been known that ergot contained elements of danger both to mother and child. Still it is but recently that the full gravity of these dangers has dawned upon the profession. More especially within the last year, this question has been studied and debated with the liveliest interest, with the result of modifying former opinions and practices in several essential points.

When ergot is administered at an earlier period than toward the close of the second stage, it is sought to hasten delivery by whipping up a lazy, or tired-out uterus, to the exercise of greater contractile force. The most serious danger to be apprehended from such a practice, is rupture of the uterus. That this accident is not so very rare as generally supposed, may be inferred from the fact, that at a meeting of the St. Louis Medical Society recently held, one gentleman testified that he had seen six such cases, and another that he had seen two, within a year, all attributed to ergot. Another and

more frequent danger is the loss of the child. Not even every veteran obstetrician has witnessed a case of rupture of the uterus, but almost every practitioner has seen more than one child born dead, with darkened skin and swollen features, *proclaiming louder than words the cause of death*. Standing in the glare of the light of the present day, and looking back into the past, every practitioner of experience must be struck with dismay at the number of serious casualties observed in the path over which he has trodden.

Another and dangerous mishap sometimes following the administration of ergot, is irregular contraction; that is, the contractile force is not equal in all its parts. When this occurs, as it often does, however severe the maternal suffering may be, labor is just as likely to be retarded as advanced. This retardation may arise from one of two causes, or both at the same time. First, the contractile force exerted in certain zones may be rendered abortive by the inertia in other zones of the uterus; and secondly, labor may be retarded, and even made impossible, by a change in the direction of the expulsive force.

Then there is the danger of a lacerated cervix and a ruptured perineum. Laceration, of course, may occur without the use of ergot, but common sense teaches us that it is more likely to occur in rapid and violent dilatation, such as may follow the administration of ergot. The same remarks are applicable to rupture of the perineum, an accident often fraught with life-long suffering to its victim. It is not here pretended that these are novel facts. On the contrary, they have been long known, but somehow it is but recently that their full significance has come to be realized.

The question now arises, Has ergot any longer a place in midwifery practice? It certainly has, but its application is comparatively limited, and most carefully guarded. A few, indeed, have gone so far as to abolish it altogether, in all stages of labor, and use it only as a post-partum remedy. A large number hold that it ought not to be administered before the second stage of labor is passed, but that it may then be profitably given to facilitate the expulsion or the placenta, and to secure firm contraction. But the opinion more generally held, and the one practised by many of those allowed to speak with the weight of authority, is, that after the head is born, it is not only safe but good practice to administer a full dose of ergot. Indeed, it is now frequently the practice to administer ergot at this stage, or as soon after as possible. The object, of course, is to secure firm contraction so as to expel the placenta and prevent possible hemorrhage. Firm post-partum contraction is highly desirable in all cases. It is now known that severe and continued after-pains are owing to imperfect contraction, and that the more firmly the uterus is contracted the less severe these are likely to be.

But the question will be asked, what are we to do when the os is fully dilated, the membranes perhaps ruptured, and the pains either feeble or entirely absent. In such cases we may safely exercise the virtue of patience, in the absence of all alarming symptoms. It may be that a little rest is all that is needed, and for that purpose a dose of opium may be given, although instead of giving rest, it may, perchance, set up active contraction, ending in speedy delivery.

Large and repeated doses of quinine are both safe and effective in promoting uterine action, and should be resorted to when it is thought necessary to secure greater contractile force. Gentle external manipulation is also valuable in promoting contraction. But should all these means fail, and active interference be called for, the safest resort is the forceps, followed by ergot, administered hypodermically to insure speedy and firm contraction.

POST-PARTUM HEMORRHAGE.

By S. D. PRIOR, M. D., Harrodsburg, Ky.

From the *Amer. Practitioner*, March, 1884:—The importance of post-partum hemorrhage cannot be over-estimated. Post-partum hemorrhage has been well defined as a "hemorrhage from any of the parturient structures, after the child has been expelled and before they have returned to their condition prior to fecundation, or as nearly to that condition as they are capable

of." It may be primary or secondary—primary, when occurring within six hours after delivery; secondary, when taking place from the sixth hour to the end of the fourth week. This, though an arbitrary division, is convenient for practical purposes.

The hemorrhage may take place after the birth of the child and before the delivery of the placenta, or after the expulsion of the placenta. In breech presentations, when the head has become arrested, it may occur before the delivery of the child. The hemorrhage may be slight, recurring at short intervals; or the blood may pour forth in torrents, quickly bringing the patient to the point of death. The symptoms are self-evident, and are such as the loss of blood from any cause produces.

When hemorrhage occurs, What is to be done? The first thing is to determine its cause, if possible, with the least possible loss of time. If due to solution of continuity, ligatures or styptics are indicated. Placental adhesions, retained coagula, or uterine polypi being the cause, must be removed. It may be promptly arrested by the removal of the secundines or such portions as remain. In the hemorrhagic diathesis and other conditions where great loss of blood is reasonably looked for, preparatory treatment by iron, nutrients, etc., and the use of electricity during delivery will often tide the patient over the danger.

Uterine inertia, however, being, as we all know, the most prolific of all causes of post-partum hemorrhage, it is to cases of this class that I desire to call special attention. Hemorrhage is both sudden in its onsets and most dangerous in its results, and requires the very promptest, most energetic, and active means for its arrest.

The patient being placed on her back, grasp the uterus and make firm compression with one hand; with the other empty the organ of any clots that it may contain; and at the same time curette the placental site with the fingers, as recommended by Wilson. Give ergot hypodermically, but do not rely upon this remedy, as is too often done, for the control of the hemorrhage. In cases where the exhaustion is great, its administration is without effect.

If removal of the clots, external compression, internal kneading, and the use of ergot fail to produce tonic contraction, then this desideratum must be sought through reflex action, excited by application of certain remedies within the uterine cavity.

This valuable class of adjuvants comprises ice, hot water (110° F.), vinegar, tincture of iodine, and solution of perchloride of iron. The last mentioned remedy is not to be used until the others have been tried and failed, unless the case is desperate, demanding its immediate application; and then it must be properly diluted, and injected slowly. It has been thought to have frequently produced septicemia, and, in some instances, death.

Compression of the aorta, although theoretically objected to by many, will often be of assistance in the restraint of the hemorrhage. When syncope occurs, lower the head and elevate the arms and legs, thus favoring a greater flow of blood to the brain. Give brandy and ether hypodermically when such stimulants are indicated. The patient should have the benefit of all the fresh air possible. If at the beginning the patient's general condition has not, owing to the severity of the hemorrhage and its pressing demands, been properly investigated, a thorough knowledge of it should be obtained as soon as possible. The bladder, if distended, should be relieved, and the rectum, if overloaded, emptied. The after-treatment of the patient will include opiates, quinine, stimulants, nutrients, and quietude.

UMBILICAL HEMORRHAGE.

By JOSEPH S. GIBB, M. D., of Philadelphia.

From the proceedings of the *Philadelphia Clinical Society*, March 28, 1884:—The writer gives a total of two hundred and forty-one cases of umbilical hemorrhage published since 1752, and says:—

Umbilical hemorrhage may be divided into three classes: (1.) Hemorrhage from improper ligation of the cord; (2.) Hemorrhage from traumatism; (3.) Hemorrhage of spontaneous origin.

Hemorrhage from improper ligation of the cord needs but slight comment. It is usually due to carelessness on the part of the attendant. It may occur from a subsequent contraction of the gelatinous material, particularly when this is large in amount, after the cord has been properly applied. It is the duty of the medical attendant to examine the ligature a second time after its application, and especially when the jelly of Wharton is in unusual amount.

Hemorrhage from traumatism is due to an unnecessary handling of the infant. This is most apt to occur before the time of the physiological desiccation of the cord. At this time the coagula in the umbilical vessels are not firm, and hence any undue violence in pulling at cord or shaking infant about may dislodge these coagula and induce hemorrhage. A styptic or ligature at the bleeding point is all that is necessary.

It is spontaneous hemorrhage which concerns us most particularly, and which will often tax our therapeutic skill to its utmost to control it. It may occur at any time, from a few hours to eight weeks after birth. The usual time, however, is about the period of the normal separation of the cord.

Jaundice is a symptom which occurs in quite a large proportion of cases. It varies in amount from a slight staining of skin to a deep bronze color, being accompanied by clayey stools and dark-colored urine.

The causes of umbilical hemorrhage are, in many cases, involved in obscurity. But, in a large number, there seems to be a direct relationship between the hemorrhage and some constitutional condition of infant, which condition may be either hereditary or congenital.

The hemorrhagic diathesis, or hæmophilia, stands first in the list.

Jaundice, as an etiological factor, has been the favorite ground of nearly all writers. It is said the bile finds its way into the blood and deteriorates that fluid, rendering it less plastic. Unfortunately for this theory, it has not been supported by post-mortem examinations that have been made, for in a comparatively small percentage was there any structural change in liver or its ducts found.

At present we are obliged to admit several etiological factors in the production of umbilical hemorrhage.

There appears to be a predisposition on the part of the male sex to the occurrence of umbilical hemorrhage.

The earliest recorded fatal termination is one hour (*N. Y. Jour. Med.*, July, 1855, Stephen Smith,) after the first appearance of hemorrhage. The hemorrhage began on the fourth day from birth.

The latest recorded fatal termination was the seventh week from birth. The hemorrhage began on the eleventh day. (*Lond. Med. Times*, April 3, 1847, Dr. Olliffe).

To my mind, the true theory of the treatment of umbilical hemorrhage is a combination of local measures—styptics, compress, and ligature—with those internal hæmostatics and tonics which experience has proved to be of value in similar hemorrhagic conditions,—ergot, acetate of lead, sulphuric acid, tinct. ferri chlor., and many others of like nature.

Of the local styptics, all have been tried and all have failed; however, they should be resorted to first, for they create less alarm in the mother, and are sometimes of value.

The ligature *en masse* is perhaps the most rational method of controlling the bleeding. But it is best not to be too sanguine of the success even of this radical measure of relief.

All that can be expected of local measures is a transient cessation of the hemorrhage, so that internal medication may be carried out and the blood improved in its character.

PUERPERAL CONVULSIONS AND PUERPERAL ALBUMINURIA.

By LAMBERT OTT, M.D., of Philadelphia.

From the *Med. and Surg. Reporter*, April 19, 1884:—A large amount of albumen with considerable dropsy is not a necessary factor in the production of puerperal convulsions.

In my experience, some albumen in the urine, with little or no dropsy, is an important and necessary factor in the production of puerperal convulsions.

In some cases puerperal albuminuria is comparatively a harmless trouble, passing over without any treatment. As for the spasm being a cause of the nephritis, the weight of evidence is very much against it.

One point in the semeiology of puerperal convulsions needs to be emphasized. Whenever you have a patient in the eight or ninth month of pregnancy having some albumen in the urine, complaining of severe headache, and a heavy, dull feeling pervading the body, occasionally associated with attacks of dimness of vision, then take care. In many instances, if this patient is not handled skillfully by depurative measures, some day you may find her in a severe, and perhaps fatal convulsion. There need be no fear of using such remedies as drastic purgatives, diuretics, and bleeding from the arm.

As long as a pregnant woman, having albumen in the urine, is free from headache, there is no immediate fear of convulsions. The headache preceding a spasm is not sudden in its onset, but comes insidiously, being so slight in its inception as to pass unnoticed, and gradually increases until it culminates in a convulsion, or is relieved by appropriate and timely treatment. The headache preceding the convulsion during the act of parturition is sudden in its onset. The headache preceding the spasm after the parturient act has similar characteristics to the headache prior to the confinement, though convulsions occur less often in this period.

I will offer only a few general remarks on the treatment of the two complaints. In uncomplicated cases of puerperal albuminuria, mild diuretics, laxatives, occasional hydrogogue cathartics, and as much rest as possible, is all that is necessary. In such cases where the symptoms assume an aggravated character foreboding convulsions, more active measures are indicated: general depletion, or dry cups to kidneys and nape of the neck, and depuratives of considerable potency. Perhaps the most trying position, and one where the young physician finds himself at his wits' end, is when he has puerperal convulsions suddenly before him. If a spasm occurs before labor sets in, and he has no medicine at hand, he can only loosen her clothing, protect the tongue, and open a vein; if he has a hypodermic syringe, give one-half grain of morphia, or administer an anæsthetic, the latter being preferable when the spasm is in activity; should he not give morphia hypodermically, then give chloral in 20-grain doses, either by the mouth or rectum. Having subdued the spasm, he has now to induce labor—provided it has not already begun—by Barnes' dilators, ergot hypodermically or by the mouth, and warm water injections.

Authorities are divided as to waiting for labor, but the most successful plan is to induce labor a few hours after the spasms have ceased. While labor is going on, all tendency to spasmodic action is overcome by chloral or an anæsthetic. After the child is born, depuratives in moderation should be given, at the same time keeping her gently influenced by chloral. Even when all depurative remedies are contraindicated, give diuretics at any rate. In other cases where labor is going on, the presenting part being in the pelvic cavity, and convulsions occur, subdue them with your remedies, then hasten delivery, and the after treatment is on the same general principles as previously enunciated. When the spasm takes place after the delivery of the child, it is not less dangerous than at other periods, and general principles are again indicated.

BLEEDING IN PUERPERAL ECLAMPSIA.

The following is from the editorial columns of the *Med. News*, March 22, 1884:—In a little volume just issued, Dr. E. Michener urges bloodletting in the treatment of puerperal eclampsia. He has collected all the cases of this disease which have occurred during the present century in an area of about two hundred square miles, Avondale, Chester County, Pa., being the centre of this area. The number of cases is forty-four; but some are reported by non-professional persons, and, therefore, furnish a doubtful basis for comparison and conclusions.

In one of the forty-four cases collected, the treatment was not known, but as it occurred early in the century, it is quite as probable that depletion was used as that it was not, and this case was fatal; three of them were treated by irregulars, and these cases also died; of course their treatment is not known, and all, therefore, may be thrown aside so far as teaching anything is concerned. Then six are recorded in which bleeding was not done, and five recovered, that is a little over eighty-three per cent. There remain then thirty-four patients, all of whom were bled, and of these twenty-six recovered, and eight died; that is, the mortality was somewhat over twenty-three per cent. But re-examining the record, we find that four did not have, but were only threatened with convulsions, and, therefore, they should not be included. We have then thirty cases of eclampsia treated by bloodletting, and eight of the patients die; that is, the mortality is 26.66 per cent., a result which, compared with that following the non-depletion, is not remarkably encouraging. Such is the brute logic of the figures Dr. Michener has given—an advantage of ten per cent. in favor of not bleeding.

But let us be just to Dr. Michener, for the cases in which bleeding was not done, and which recovered, were mild attacks. And this brings us face to face with the great difficulty in deducing conclusive truths in therapeutics, even from a large number of cases. No two patients are precisely alike in themselves, or in their diseases, and he is the wisest doctor who selects and adapts his remedies to the individual, rather than fixes an unchanging law of treatment for a disease. Bloodletting in the majority of cases of eclampsia is an invaluable remedy, a remedy more likely to be too seldom than too frequently used in these days, but all eclamptic patients are not to be bled, nor all to be bled the same amount. The recent investigation of Charpentier show that more cases recover after moderate than after free depletion.

Further, the practitioner should not forget that in some cases the anæsthetic is better than the anti-phlogistic treatment, and that in all cases in which the latter is pursued the former usually supplements it. The results from chloroform which Braun had, sixteen cases, all recovering; and those of Chailly, seventeen recoveries out of nineteen; and of Triaire, five out of five; and those which Froger has collected, quoted by Charpentier, only four per cent. of deaths when chloral alone was used, ought to make one cautious in declaring that bleeding is the only salvation for the eclamptic.

PUERPERAL INSANITY.

By GUSTAV ZINKE, M.D., Cincinnati, O.

From the *Obs. Gazette*, April, 1884:—The disease has also been known from the earliest times in medical history. The speculations regarding its causes and pathology have been many. In 1857 Sir J. Simpson suggested that this affection may be intimately connected with albuminuria.

Dr. Fordyce Barker has found albumen associated with so small a proportion of cases, that he finds himself compelled to regard it, where present, as simply a coincidence, and not a cause.

Dr. Donkin is credited with the following conclusion: "That the acute dangerous class of cases are examples of uræmic blood poisoning, of which the mania, rapid pulse, and other constitutional symptoms are merely the phenomena, and that the affection ought, therefore, to be termed uræmic or renal puerperal mania, in contradistinction to the other form of the disease.

Again, others, among them Burns and Davis, are of the opinion that puerperal insanity is of inflammatory origin.

Gooch, however, maintains that the disease is not one of congestion or inflammation, but one of excitement without power.

It is difficult to form definite pathological grounds from the observations thus far made. There are no post-mortem examinations to confirm any of theories so far mentioned, and I am inclined to side with those who seek the seat of lesion or disturbance somewhere within the nervous system, and that the day is yet distant when we will know, if ever, the real pathology of this

disease. Indeed, it seems altogether probable that it is only a functional, and not an organic derangement."

Among the predisposing causes stands first heredity, which has been found to exist in about one-half of the cases observed, and I am able to add one to that list. Next in order we have unhappy domestic relations, as demonstrated in at last two of my cases. Primiparae are more liable than the pluriparae, especially those who are confined for the first time between the ages of thirty and forty. Complicated and exhausting labor; unmarried women, feeling deeply the degradation of their position; bad hygienic surroundings, general debility, caused either by previous existing diseases or frequent pregnancies, are all mentioned, as predisposing, by Esquirol. As exciting causes we find mentioned cold, imprudence in diet, sudden mental shock, disordered bowels; but all may be considered as insufficient. The disease is most apt to occur between the third and seventh month of pregnancy, at labor, and during lactation from the second week to the sixth month and after.

The symptoms do not differ materially from those cases which occur unconnected with the puerperal state, with the exception, perhaps, of a certain restless, anxious manner, more or less irritability, and obstinate insomnia. Dr. Ramsbotham groups up the symptoms as follows: At the commencement a troubled, agitated, and hurried manner; a restless eye; an unnatural, anxious, suspicious, and unpleasant expression of the face—sometimes pallid, again flushed; irritability of temper; impatience; vascillation of purpose, loss of memory; rapid succession of contractions; paroxysms of excessive anger; occasionally sullen obstinacy, listlessness and stubborn silence; impressions that some evil has befallen her husband, or, more often, her child; that it be dead, or stolen, or, if it be brought to her, nothing will persuade her that it is her own; she fancies that her husband is unfaithful to her, or that he and those about her conspire to poison her.

Respecting the course and termination, it may be remarked that much will depend upon the particular type of the disease. If mania, perfect and lasting recovery may confidently be looked for; but should it be accompanied by an extreme rapidity of the pulse grave apprehensions are justifiable as to a fatal termination of the case. (Leishman.) Just how often these cases terminate in death is not known. If melancholia, the course will be of much longer and more variable duration. Gooch properly remarks that mania is more dangerous to life—melancholia to reason.

Treatment.—The maniacal form, as a rule, does not require any treatment if the attack is of short duration. If, on the other hand, it continues for some time, we may become useful agents in restoring the patient, not only to perfect health, but in cutting short the disease. If the patient be of good physique, blood-letting may be resorted to in any of its forms; if the bowels be loaded, active purgation is indicated. Emetics—ipecac, not antimony—should be given, if the tongue be coated heavily. Opium, although it has been administered in many places, should not be given unless it be given in large doses.

Simpson says: "Whatever may be the way in which you give the drug, remember always, as the general rule to guide you in its administration to such patients, that it must be given in very large doses. If you expect to have any good effect from it, you must give, in general, not less than two or three grains of solid opium, or an equivalent dose of some of the cognate preparations."

Dr. Tuke, on the other hand, maintains that from the exhibition of opium as well as other narcotics, no beneficial results are obtained when the leading symptoms are those of acute mania. Suffice it to say, that opium has produced good results, if administered in large doses, in many cases, which terminated in recovery. It should not be given, however, until other sedatives have failed. Perhaps one of the most efficient remedies we find in hydrate of chloral in combination with bromide of potassium and hyoscyamus, if given in moderate doses, and repeated at short intervals until sleep is produced. In all cases should we seek to establish the regularity of the bowels. Emetics, as well as active purgation, should be avoided if the vitality is low and gastric disturbances well marked. Vascular sedatives may be given

hourly, but care must be taken not to push them too far, for obvious reasons. Chloroform also comes in for its share of good results produced in these cases. Warm baths have been employed, with favorable results, when other sedatives have failed to bring about quiescence. Diet should consist of soups in moderation. If the patient be feeble, wines may be resorted to, if not contraindicated by stomach symptoms, and if the case progresses favorably a more generous diet may be gradually allowed. Seclusion and restraint are important factors in the management of these cases.

The melancholic variety will not test the therapeutics of the physician so much. It will not be necessary in most cases to administer nervous or vascular sedatives to the same extent as in the other, but strict confinement and mental quietude are of prime importance, and should be enforced under all circumstances. The patient should never be left alone, from the fact that there is a constant tendency toward suicide, and if, in the progress of the cases, it becomes evident that long duration is probable, or the affection threatens to become permanent, the asylum is the only place to which we may look, with some degree of hope, for final restoration to reason.

PUERPERAL FEVER AND PROPHYLACTIC VAGINAL INJECTIONS.

By T. JOHNSON ALLOWAY, M.D., L.R.C.S.F.P., Edin. Cons. Phys. to Montreal Dispensary.

From the *Canada Med. and Surg. Jour.*, March, 1884:—Prophylactic vaginal injections should never be resorted to unless under the following conditions:—(1.) No solution should be used as an injection but that of Hydr. Bichl. $\frac{vssss}{ssss}$ strength. (2.) A perfectly new fountain (No. 2) syringe should *only* be used in each case; better none than a second-hand one, no matter how apparently perfect. (3.) No injection should be given until the day after the confinement, and one injection daily is sufficient; sometimes one every second day will be consistent with safety of patient. (4.) The physician should perform the operation himself; on no consideration trust a nurse; better leave it undone. (5.) See that the syringe is playing before introduction of nozzle, to prevent entrance of air. (6.) A convenient solution of corrosive sublimate can be made by dissolving one drachm (3 i) of the salt in one ounce ($\frac{3}{4}$ i) of alcohol. One teaspoonful (3 i) of this solution added to one quart of warm water will give almost to a fraction one part in two thousand $\frac{vssss}{ssss}$ and will be sufficient for each injection. This injection can be continued for almost any length of time, the absorbent power of the vaginal mucous membrane being very low. (7.) Provided there is no cause for *intra-uterine* decomposition—which every careful physician should satisfy himself of before leaving his patient at time of confinement—my experience has led me to think, that it is not possible to have a patient attacked with puerperal septic fever in private practice while observing the above indications.

THE PREVENTION OF PUERPERAL INFECTION.

By HENRY J. GARRIGUES, M.D., Visiting Obstetric Surgeon to the New York Maternity Hospital.

In a paper published in the *N. Y. Med. Jour.*, March, 1884, we find the following:—Having been well pleased for years with the vaginal injections of one to two-per-cent. carbolic-acid solutions morning and evening as routine treatment, I used them likewise in Maternity Hospital when I was appointed visiting obstetric surgeon there in 1881. During my first service of six months there reigned a moderate morbidity and mortality, but still, not satisfied with the general condition of the patients, when I went on duty again, on October 1, 1882, I wanted to try if perhaps the vaginal injections, administered by nurses who often came directly from the wards of Charity Hospital, did more harm than good. I therefore abolished them, and they were not used during the following six months. At that time the preventive measures consisted only in dusting the external parts with a mixture of salicylic acid, one part, and starch, four parts, and inserting a pad of oakum between the thighs. *In spite of this system of non-interference, the morbidity and mortality increased very much.*

The hue and cry recently raised against vaginal injections exaggerates, in my opinion, very much the dangers of this mode of treatment. For ten or fifteen years they have been used by the most advanced obstetricians. They came in as a part of the antiseptic treatment, by which the results obtained in lying-in institutions have been entirely changed all over the world.

It ought to be distinctly understood that *antiseptic vaginal injections are by far preferable to the abstention from all antiseptic treatment.* Vaginal injections, however, present several drawbacks. But all these objections apply only to injections after delivery. Those before delivery may be, and ought to be, given by the accoucher himself. *A thorough cleansing and disinfection of the vagina before delivery forms a link of absolute necessity in antiseptic midwifery.*

Besides vaginal injections, I have used, and continue using, prophylactic *intra-uterine* injections in every case in which it has been necessary to introduce the fingers, the whole hand, or instruments into the uterine cavity. Formerly I used for this purpose a five-per-cent. solution of carbolic acid; now I employ the 1-to-2,000 bichloride-of-mercury solution. I likewise use this prophylactic intra-uterine injection when the fœtus has been dead for some time.

PUERPERAL FEVER.

From an interesting letter on this subject from Dr. F. H. LOMBARD, in the *Boston Med. and Surg. Jour.*, we extract the following:—

For the ten years (1812–1822) previous to the introduction of anatomico-pathological studies in Vienna, the rate of deaths from puerperal fever in the lying-in hospital was 1.8 per cent. During the year 1823, when students, for the first time, were obliged to dissect and to make post-mortems, the mortality rose with a leap to 7.5 per cent., and from that time until 1847, when Semmelweis introduced his rules for disinfecting hands, instruments, etc., with calcium hypochloricum, the death-rate never fell below 2.2 per cent.; it averaged for these forty-five years 6.2 per cent., and in 1842 reached the formidable height of 15 per cent., every sixth or seventh woman confined dying from puerperal fever.

The introduction of disinfectants brought the death-rate for 1848 again down to 1.8 per cent., and since that time it has never risen above two per cent., except during the interval from 1852 to 1857, when disinfection was for the time abandoned (its efficacy being questioned), and, significantly enough, the death-rate rose again as high as nine per cent.

In 1865 carbolic acid was introduced, and from that time to the present antiseptic precautions have been observed with constantly increasing vigilance, and with correspondingly gratifying results. With an average of more than 10,000 births a year the mortality from puerperal fever for the last five years in Vienna Lying-in Hospital has been under 0.75 per cent.

At Prague the results are not less striking. For the ten years (1865–1875) previous to the building of the new hospital the death-rate from puerperal fever averaged 6.67 per cent. per annum; maximum, 11.6 per cent.; minimum 3.08 per cent.

Since the completion of the new hospital, which is a masterpiece in its hygienic arrangements, and since the introduction of antiseptic precautions rigidly observed, the number of deaths has decreased in a remarkable ratio. —*Med. and Surg. Reporter.*

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER.

By W. D. SCHUTTLER, M. D., New York.

From the *N. Y. Med. Jour.*, May 31, 1884:—While I can take no positive exception to the language in a broad sense, that “puerperal fever is puerperal septicæmia”—not being able to say that in the progress and steps of the morbid anatomy of puerperal fever there may not be a stage of putrescent development and its results; while, on the other hand, we must all ad-

mit that in puerperal septicæmia there is puerperal fever as a feature of its pathological ensemble; while I can take no exception to Dr. Thomas' subsequent statement that these puerperal diseases do result from the absorption of a poison through the predisposed mucuous membrane of the generative tract; while I cannot deny that the progress and results of the actions set up are similar; while I recognize, on the other hand, that these maladies present the same general pathological characteristics—nevertheless, I think that in these febrile expressions we have two distinct diseases to deal with, especially when we consider them preventively.

My observations lead me to entertain the belief that the puerperal woman is subject (1) to the effects of a special contagium whose action—*which is zymotic rather than septic*—is upon and through her predisposed generative tract, and *which attacks her irrespectively of whether such tract has or has not been lacerated or abraded, as a result of parturition*; which contagium sets up in her what may be termed—especially on account of its contagious and specific character, and categorically at least—*puerperal fever*; and (2) that she is also liable to the development of a post-parturient fever, symptomatic, from the absorption of septic materials, and which absorption—not a contagion—is the primary step in the morbid action which follows; which malady, on account of the nature of its genesis, may be termed *puerperal septicæmia*. I admit that for either of these results *the exciting cause is a poison*, and in either, the ensemble of pathological phenomena includes a local action—inflammatory or simply absorbent—and general febrile symptoms.

The distinguishing characteristics of the poisons are: First, the poison of *puerperal fever* is a *specific or semi-specific contagium*; it communicates itself from one puerperal woman to another who may have been confined in the same locality, and within certain limits of area; and it may be communicated to another who is at a distance by a third person, and especially by the doctor. It is *endemic*. When the disease has existed in a room—varying in degree with the degree of saturation which has been accomplished—it will remain therein a certain time, and will communicate itself to a woman who may be confined in the same apartment for a varying period of time. It particularly has dwelt in lying-in hospital wards. Its poison is heterogenous, or attacks the woman from without, and is never idiopathic; and all puerperal women who are exposed to its contagium are liable to its attack, without regard to existing intra-uterine or vaginal conditions other than that they shall be puerperal.

On the other hand, the poison of *puerperal septicæmia* is not contagious, it is not infectious, is never endemic; it is strictly idiopathic, its genesis depending upon the blood and nutritive states of the woman, upon atonic post-parturient uterine contractions, upon retained decomposing placenta or secundines, or upon abnormal and septic conditions of the lochia, and upon the absorption of septic matter from one or all of these sources through the denuded or lacerated mucous membrane of the generative tract. While the poison of puerperal fever attacks the woman from without, puerperal septicæmia (febrile) can, and generally does, develop irrespectively of external causes.

Whether the contagium of puerperal fever is specific—in the sense that the poison of small-pox, or scarlatina, or measles is—is doubtful; but that it resembles the poison of surgical erysipelas, of typhoid fever, of cerebro-spinal meningitis, and is specific in the sense that the contagia of these maladies are, is quite probable. That it is a semi-malarial product, and may be developed *de novo*, I shall offer some evidence in support of later on. And that such development is hastened in the presence of surgical erysipelas, or in an atmosphere tainted with cadaveric emanations, is most plausible.

I would also add, concerning the teaching that the lochia are in themselves very poisonous and a prolific cause for the development of sepsis and zymosis, that the statements made relative to the many lacerations which are caused in the course of the generative tract, considering that these lacerations must be bathed for some days in the cleansings, and the relative infrequency of septicæmia from this cause—both in a lying-in and in private practice—constitute its ample disproval.

From the foregoing conclusions I would submit the opinion that in general the generative tract of the parturient woman, as she is met with under normal conditions, in private practice, is not especially predisposed to take on septic or zymotic degenerative action; and, therefore, under normal conditions, and where she has not been exposed to the contagium of puerperal fever, the parturient act (being a natural function) does not jeopardize the woman, and does not offer indications for an unusual, elaborate, or dread-inspiring institution of preventive measures.

THE NECESSITY OF PRIMARY PERINEORRHAPHY.

By CHARLES R. CRANDALL, M.D., of Portland, Me.

Dr. CRANDALL concludes an article, published in the *N. Y. Med. Jour.*, as follows:—

Assuming now that the primary operation has been carefully performed, let us note the steps of the after-treatment. It must be borne in mind that careful attention to details, the help of a good, intelligent, faithful nurse, and full co-operation of the patient, are highly essential to the success of the operation. (1.) Keep the patient quiet upon her back as much as possible during the first three days, and do not let her sit up during the first ten days. (2.) Have the napkins intended to absorb the lochia changed every two hours, and the bedding kept absolutely clean. (3.) Have a warm, carbolized vaginal injection given every six hours and see that the nurse knows how to give it. Have the vagina and genitalia thoroughly cleansed after each act of micturition. (4.) Allow the patient to use the bed-pan at her pleasure; but, if she is unable to do so, have her catheterized twice daily with a new, clean, soft-rubber catheter. (5.) Give her morphine sufficient to avoid pain. (6.) Give her a light, restricted, liquid diet, composed largely of animal broths and beef-tea, during the first few days. Milk is objectionable in these cases, for it often generates a great amount of intestinal gas, tends to constipate the bowels, and creates a bulky, scybalous stool. (7.) In cases of laceration of the second degree, induce a "soft movement" of the bowels on the third day with a saline laxative and enema of warm water, and insure a similar movement each day thereafter. It was formerly the practice to keep the bowels "locked" for seven or ten days, but it has been found that patients do better and success is greater when the bowels are allowed to move early and daily. In the first and third cases in my own practice, referred to previously, the bowels were moved by the third day, and success was perfect. When the bowels are confined for a week or more there is danger from intestinal irritation, fever, bulky stools, and rectal distension. In cases of complete laceration, all authorities formerly advised keeping the bowels closed for ten days; but now the view is changing, for it has been found that success is most frequent where the bowels move daily after the third day. (8.) Keep the temperature of the room at about 70° F.; have good ventilation; avoid draughts; let in an abundance of sunlight. (9.) Do all things to keep the patient cheerful, hopeful, and comfortable. (10.) Remove the stitches about the seventh day. It must be borne in mind that union by first intention in the perineum takes place early and rapidly, if at all, for the parts are held in firm apposition and are highly vascular.

The prognosis of primary perineorrhaphy, when properly performed, is favorable in almost every case. Analysis of a great number of cases has not yet afforded absolute data, but the reports of different men, who have made a practice of performing the operation, furnish us most gratifying intelligence. In illustration, Dr. Page, of New York, in a recent article on this subject, makes the following statement: "Of a collection of 100 cases, including all degrees of rupture, 90 were cured, 9 improved, and 1 was not improved." (*Medical Record*, December 1, 1883.) And Dr. Lusk, in the same journal, gives his results by saying, recently, in looking over his hospital obstetric record, he found that he had operated in 24 cases, 23 of which were successful, and in one there was a partial failure, owing to a certain amount of carelessness with which the operation was performed. It is evident, then, that

well-directed efforts to perform the operation are very likely to be followed by success.

Before concluding my lengthy advocacy of primary perineorrhaphy, I beg to put upon it the indorsement of some of the leading minds of our profession in different parts of the world. "The operation should be performed just after delivery." (Scanzoni.) "If it (the perineum) has given way to any extent, I believe that it is good practice to insert one or two interrupted sutures of silver wire or carbolized gut at once." (Playfair.) "You must therefore make a clean breast of the mishap to the patient, and perform the primary or immediate operation—that is to say, you must at once sew up the wound." (Goodell.) "If the perineum be lacerated, it should be closed at once by suture, to shut up this avenue of septic absorption." (Thomas.) "The primary has been so successful in a large number of cases, and is so simple in its performance, and does so much to prevent the woman from suffering during child-bed, avoid suffering for weeks or months before the secondary operation is performed, that it seemed to him there could be no doubt with regard to the propriety of the primary operation." (Lusk.)

THE RELATIVE PRACTICAL VALUE OF PODALIC AND CEPHALIC VERSION.

By F. LOEBER, M. D.

The following is from the *N. O. Med. and Surg. Jour.*, March, 1884:—Two varieties of turning may be practised; these are turning by the head, or, as it is generally termed, cephalic version, and turning by the feet, or podalic version. These two modes of turning are practiced for the purpose of achieving two distinct purposes.

1. An absolutely unfavorable position in which delivery of the child is impossible, is converted by it into a favorable one, in which position a natural delivery is possible.

2. An otherwise favorable position is changed into a seemingly unfavorable one, in which position, however, artificial delivery may take place; or, in which the natural course of delivery is facilitated.

In the first case turning is the only object we wish to attain; in the second case turning is the only means by which we can attain our object. For instance, we all know that a full grown fetus cannot be born alive and with safety to the mother, in a transverse position. To enable delivery to take place, we must change the transverse position into a longitudinal one. In this case, version is our only object, as the conditions for a natural delivery are obtained. It is altogether different in a case of placenta prævia, with the head presenting. Version in this case is the means by which we intend to attain our object. We do the same in a moderately contracted pelvis. We change a head presentation into a foot presentation, because the head in this position goes more easily and quickly through the pelvis. Version in this case is made not because the child cannot be born, but because the chances for the mother and child, by changing the position, are more favorable.

Cephalic version played an important part in the earliest days of obstetrical practice of all nations.

Podalic version was first suggested, not practiced, in the year 1561 by Pierre Franco, in a work devoted chiefly to surgery, and was subsequently adopted and practiced by Paré, Guillemeau, Mauriceau, Baudloque and La Chapelle, to the complete exclusion of cephalic version. When, therefore, Solayres in France, and Boer in Germany, in the later years of the last century, demonstrated the value of cephalic version in certain cases, it was received as an entirely new operation.

I shall only enumerate the different methods so as to recall them to mind:

- 1st. Position. The woman is put on that side to which the head of the child is directed.

2nd. Wigand's method. Turning by external manipulations alone, without introducing the hand or finger into the vagina.

3rd. Dr. Robert Lee's method. The opposite of Wigand's; to effect turning by introducing two fingers, or the hand, into the completely dilated os, and bearing upon the parts presenting and successfully pushing aside those parts which come opposite the os, until ultimately the head or feet are made to present, or are brought within reach of the fingers and secured.

4th. Braxton Hick's method, combining external and internal manipulations (Wigand's and Lee's methods combined).

The question now is, What is the relative value of podalic and cephalic version in obstetrical practice?

Every text book gives the mode of making cephalic version and its indications; some of them speak very enthusiastically about it. What, then, is the reason, that if we look over the medical reports of different cities and countries, we find podalic version made hundreds of times—cephalic version comparatively seldom? No one can deny that however correct cephalic version may be theoretically, practically it is uncertain and difficult. On the other side, we have podalic version, by which operation a less favorable position of the fetus is produced, but it excels by its certainty and promptness in execution.

The greatest drawback to cephalic version is that it is only useful and can be employed in only those cases in which we wish to make a correction of the position. In all cases in which delivery has to be performed at once, it cannot be employed.

One of the rules laid down for making version, is not to make a cephalic version if we should suspect prolapse of the cord to occur. I would like to know how we are able to foresee it? Another rule is that the child shall be still movable, the membranes intact, or ruptured only a short time. These are conditions which we very seldom find. A normal size of the pelvis is another condition for making cephalic version. In a moderately contracted pelvis, cephalic version is out of the question. In cephalic version the turning of the child is generally not so very difficult, but to find the head in the pelvis, and then keep it in position, is the great trouble. In podalic version this cannot happen; if once the version is made, the position is final, even if we have no regular labor pains. All that we want is a pelvis large enough to allow delivery in a natural way, and an os dilated not more than is needed to make cephalic version.

I must confess the favorable statistics in favor of cephalic version are, at first sight, striking. According to these not even $\frac{1}{2}$ per cent. of mothers die by cephalic version; the number is above $6\frac{1}{2}$ per cent. by podalic version. The difference in the mortality of children is still more frightful, not quite 25 per cent. having died by cephalic and about 65 per cent. by podalic version. Figures will tell, but I think it would be a wrong proceeding if we would decide the comparative value of the two operations by these statistical tables. These $6\frac{1}{2}$ per cent. mothers and 65 per cent. children, victims of podalic version, contain all those cases where head presentations had to be changed into foot presentations, as in placenta prævia, which occurrence, by itself, endangers the life of the mother and increases the mortality. Further, all those cases in which, in a contracted pelvis, craniotomy had been performed, and in which podalic version had to be made to be able to deliver; also those unfavorable cases in which, long before the arrival of the doctor, the membranes ruptured and shoulders were deeply pressed down by convulsive contraction of the uterus; all cases which give beforehand an unfavorable prognosis. They contain, furthermore, all those cases in which (and this is well worth considering), *cephalic version was vainly tried, and the operator was forced to make podalic version.* When we take all this into consideration, these statistical tables will have quite a different meaning.

Only cases of transverse position must be considered as appropriate for cephalic version. If we select in this manner a certain number of cases, and in one-half of them make cephalic, in the other half podalic version, I am convinced that the latter would give us results which would prove without its superiority.

THE OBSTETRIC FORCEPS.

By THOMAS J. MOORE, M. D., of Richmond, Va.

From a paper published in the *Virginia Med. Monthly*, 1884.—In regard to the use of the forceps, where the resistance of the soft parts offers the chief obstacle to labor, there are two conditions to which I wish your attention called. The first is where the head lies high up in the excavation and entirely within the uterus, the waters having escaped, and the mother is growing restless, apprehensive and weary; the head has been lying down upon the neck just within the os externum for some hours without being able to accomplish necessary dilation; the os is partially dilated, and by manipulation with one or more fingers is capable of being dilated to two-thirds of the extent required for the passage of the child's head. Here, after dilating the os to the extent and in the manner above described, apply the forceps, being careful in no way to involve the soft parts; and then by gentle and slow traction you will be able to deliver the child, saving the mother hours of suffering as well as the infant the risk of being born asphyxiated. So soon as the condition is positively ascertained, the accoucheur should at once interfere and deliver, never being governed by any formulated set of rules as to the number of hours that should be permitted to elapse before interference should be considered justifiable.

The other condition is when the head has descended to the floor of the perineum, and apparently is retained by the resistance of the perineal muscles. Here the head will frequently remain for hours without advancing, and despite all efforts of the uterus, aided by the voluntary efforts of the mother—the obstacle remaining the same—instrumental interference will be required to accomplish the delivery. The impression is generally prevalent, that it is simply the rigidity of the perineal muscles that thus retards the labor. It is rather attributable to the peculiar direction in which the force is applied to the head of the child. The head in descending remains in a flexed condition until it impinges upon the floor of the perineum, at which time it becomes necessary, in order to complete the labor, that *extension* should begin.

These are the cases where forceps can be applied with great ease to the accoucheur, with but slight pain to the mother, and, if the delicate short forceps is used, neither the integrity of the soft parts of the mother should be in any way compromised, nor the head of the child injured. The latter assertion I expect to be caviled at, so far as it relates to the soft parts of the mother; but I am firmly convinced that the laceration of the perineum more often follows protracted, obstructed labor, over-distending the perineum than from the application of the forceps; and I do not exaggerate when I state that nine out of every ten cases requiring the application of the forceps, is after the head has reached the floor of the perineum, and not until then. It is for this reason, that general practitioners should learn how to apply the forceps, and thus afford relief, which is quite often needed at their hands to women in the throes of labor—leaving the higher operations which requires an educated touch, and great delicacy of manipulation to those endowed with eminent surgical skill. The forceps can be applied at the floor of the perineum generally without materially altering the position of the woman in bed, and the use of an anæsthetic is but rarely required. Should difficulties be encountered, change the patient to the forceps position, and administer your anæsthetic.

When to interfere in cases of labor is the great question to determine. Labor is a natural, a physiological process, and, within certain limitations, nature should always be permitted to perform her functions undisturbed. Beyond these limitations, a large class of females demand *this* intervention upon our part. There is an error about instrumental delivery, which I believe is rapidly disappearing—the attributing the various complications of the lying-in, and the accidents that follow after instrumental delivery, to the use of the forceps. Puerperal fever, peritonitis, pelvic cellulitis, metritis, laceration of the neck of the uterus, vesico-vaginal and recto-vaginal fistulæ,

thrombus of the vulva, etc., are much more likely to be produced by prolonged tedious labor than by the timely use of the forceps.

There is no absolute rule to govern one in regard to the special time that the forceps should be applied—the different stages of labor, presenting different requirements. In the first stage, if the pelvis is relatively normal in dimensions, and there are no accidents requiring immediate delivery, *non-interference* should be the rule. On the other hand, after the second stage has begun, whenever the accoucher has become satisfied that the labor will not progress without the application of the forceps, it should be done at once. To determine this condition may require but the lapse of a few minutes, or it may require several hours. But never let the life of the mother or the child be placed in jeopardy from an over sensitive conservatism. Timidity upon the part of the accoucheur, “the watch and wait policy,” the permitting nature to take her course plan, have done more harm to the mother and child than we are capable at the present time of appreciating.

DISEASES OF WOMEN.

OPERATION FOR LACERATION OF THE CERVIX UTERI.

By T. A. BRANT, M. D., Prof. Obstetrics and Clin. Gyn., Med. Coll. of Ohio.

From the *Medical News*, May 10, 1884:—I believe that the operation properly done favors fertility—and often cures sterility. In but two of my cases did union fail. In one of these I foolishly used catgut ligature. In the other failure was due to the sutures not being sufficiently tightened. In each case subsequent operation was successful.

I may have made the operation in cases not demanding it, but, from my point of view, I do not think so. In eight or ten cases reflex nervous symptoms, which I hoped to banish by the operation, remained, but in most cases the good effect was obvious; in some cases the cures were almost marvelous. My method of operating, after much thought and some experience, I think worthy of consideration, as it must, as I believe, have some advantages over methods generally adopted. (1) I use nothing but the single vulsella to draw the uterus down, with which I seize but one lip, the one to be denuded first, at a time. (2) I draw the uterus down as little as possible. This caution should be the more scrupulously observed if any cellulitis remains about the base of the broad ligaments or elsewhere. (3) I outline the denudation with a sharp knife, and then cut the tissue included in the line with a sharp scissors. This prevents the rolling of tissue at the borders. (4) Allow free bleeding or not, as the condition of the tissue of the cervix and the involution or subinvolution of the uterus may require. (5) Use a nearly half-circle needle with very sharp point, armed with Chinese silk. A needle thus shaped can be drawn through the second lip and withdrawn very much more easily than a straight needle, or one curved only near the point. This advantage is all the more apparent when the uterus is not drawn down, as then the vaginal wall makes the withdrawal of the usual shaped needle difficult. I employ a plain needle-holder without any catch or slide, but strong. Silk is preferred to wire, because it can be tied much more quickly, and the tension more easily adjusted; then there are no ends to jag the vaginal walls. Another great advantage of the silk over the wire, is in the fact that the sutures may be left in from fifteen to thirty days without danger of cutting out; quite an important matter in a case in which trachelorrhaphy and perineorrhaphy are done at the same sitting. The perineum may heal perfectly and be strong before removing the cervical sutures. My custom is to allow the ends of the sutures to remain sufficiently long to reach nearly to the vaginal opening. This facilitates their removal. (6) Wash out the cervical canal at the close of the operation with a recurrent flow syringe, to remove any blood that may

have found its way there during closure of the sutures. Have the nurse wash out the vagina with warm carbolyzed water within an hour after the operation is completed. The vagina is not syringed again until the sixth day; then daily until the patient is dismissed. Cleanliness is the only antiseptis employed.

Authorities have been but little quoted, as it is the purpose of this paper to give simply notes of my own cases, 231 in number.

A NEW MODE OF OPERATING FOR LACERATED PERINEUM.

By A. H. GOSLET, M. D., of New York.

The following is from the *Medical News* for March 22, 1884:—In operating immediately after delivery, place the patient in a good light, on her back, with the knees well separated, and, using the silk-worm gut or Lister's carbolyzed catgut ligature for sutures, with a small, short needle commence introducing them on the vaginal surface, at the termination of the vaginal rent, tying each suture in the vagina as it is introduced, and in this way stitch the torn vaginal edges together up to the point where this line meets the perineal edge of the wound. Then, with interrupted sutures of the same kind or of silver wire, commencing at the bottom of the perineal surface of the wound (making the sutures superficial only) stitch these sutures together, carefully coaptating the edges, and closing the wound completely at the top, where the two sets of sutures meet. I prefer the silk-worm gut for the internal sutures because they may be left in for an indefinite period, and do not irritate or become absorbed.

In the secondary operation, externally, the denudation should not be carried further than the line of cicatrix of the old perineum. Denude the outer border first, commencing on the left side of the vulva (right of operator), at the upper point of this line; denude a strip around to the same point on the opposite side, taking care to follow the line of cicatrix and not go too far out. As a guide to the limitation of denudation internally (as suggested by Dr. Emmet), hook up with the tenaculum the apex or crest of the rectocele at such a point that, when pulled forward to the upper angles of the perineal cicatrix, puts the posterior wall of the vagina gently on the stretch. Then remove a strip of mucous membrane from the upper point of the external boundary line on the left side of the vulva to the point on the crest of the rectocele already determined upon, and from there to the same point on the right of the vulva. The island of mucous membrane surrounded by these lines is then removed.

The next step is the introduction of the sutures, and this is done in the same way as in the primary operation.

There is now left the outer or perineal border to be united, and, after the wound has been thoroughly cleansed, this is done by interrupted superficial sutures from below upward, using the silver wire or silk-worm gut, and inserting them near enough together to coaptate the edges thoroughly. Eight or ten vaginal sutures are usually required, and six or eight perineal.

The advantages of this over the old method of introducing the sutures are evident. The more complete coaptation of the edges of both vaginal and perineal surfaces possible by this method insures more prompt and perfect union, and prevents the urine or any discharge from the uterus from coming in contact with the raw surfaces, and the catheter need not be used, which is a great desideratum. The rectocele is turned in and covered up by bringing the vaginal edges together in this way, and the posterior vaginal wall is drawn upward, narrowing the vaginal orifice to its original capacity. In the old method of introducing deep sutures of silver wire, the internal or vaginal edges are but imperfectly coaptated, and as the sutures are tightened the posterior vaginal wall is pulled downward. This produces a puckering and thinning of the prospective perineum, and by compressing the blood-vessels interferes with the circulation and nutrition of the parts, and tends to prevent good union.

The perineal sutures may be removed before the patient leaves the bed, but the vaginal sutures are left in for two or three weeks until the union is suffi-

ciently strong to admit of the necessary amount of dilatation of the vaginal orifice to remove them.

The carbolized catgut sutures, if they do not soften too quickly, may answer for the vagina, and would not require to be removed.

DYSMENORRHOEA.

By C. D. PALMER, M. D., Prof. of Med. and Surg. Diseases of Women and Clin. Gyn. in the Med. Coll. of Ohio, Cincinnati.

Dr. PALMER in the 8th vol. of the *Trans. Amer. Gyn. Soc.*, 1883, objects to much of the mechanical doctrine of this affection for the following reasons: Lack of uniformity between the seeming causative lesions or abnormalities and the manifestations of symptoms. This want of uniformity is noticeable in the seat, degree, kind, duration, and time of the occurrence of pain. The seat of pain is generally in the uterine region, but at times in the back, head, or limb. The degree and kind of pain also are variable. Where real obstruction exists the severest attacks of menstrual pain are rarely present. Cases of complete retention from entire occlusion are not ordinarily attended with great pain. In membranous dysmenorrhœa, a sample of mechanical pain, the pain is not infrequently the most intense and unyielding when no obstruction can be detected. A patient may writhe in the agonies of the most painful dysmenorrhœa when a medium sized sound can easily be passed. In just such circumstances the pain may be intermittent, paroxysmal, expulsive. Labor-like pains are by no means characteristic of obstruction. Nor is pain uniformly regulated or modified by the quantity of menstruation. If there is any rule in reference to this matter it is that the more scant, imperfect, and delayed the flow, the greater the pain. The time of pain is usually at the beginning of menstruation, and is mostly confined to the first day. As a rule it ceases or abates in a great measure after the complete establishment of the flow. Sometimes it is complained of a few hours or a day preceding. Again, painful menstruation may, without any treatment whatever, entirely disappear for a number of months to return again. And this occurs quite frequently after a change of surrounding or a removal to another climate.

The occurrence of dysmenorrhœa with flexion is generally ascribed to obstruction and retention, but the inference that the painful menstruation is as uniformly resultant on this condition as the frequency of its occurrence, seems to him fallacious. Dysmenorrhœa not unfrequently antedates any flexion subsequently detected. Congenital ante flexion, that which commences at the pubertic period of uterine development, is very frequently associated with dysmenorrhœa, but the dysmenorrhœa is not in proportion to the degree of flexion, and straightening of the uterus by no means always cures it. Again, a considerable proportion of cases of flexion are unattended with any menstrual pain until some other disease is superadded.

The following varieties of cases doubtless have been witnessed by every gynecologist, and illustrates this lack of uniformity between the seeming causative lesion or abnormality and the manifestation of symptoms.

1. Instances of dysmenorrhœa where no abnormal condition of the uterus as to size, shape, position, circulation (in the whole organ or in part, or in ovaries or pelvic tissues) can be detected on the most thorough examination.
2. Instances in which there are well defined abnormalities of the uterus, as a pin-hole os, elongated cervix, constriction of the canal, flattened and ill-developed body, ante flexion, and no dysmenorrhœa.
3. Instances of stenosis of the os externum of marked kind and degree, the result of chronic inflammation or the vicious use of caustics, and no menstrual pain.
4. Instances of well defined acquired flexion of the uterus and no dysmenorrhœa.
5. Instances of stenosis of the os externum and cervical canal associated with dysmenorrhœa where treatment of a surgical nature proves successful in the relief of the former, while temporary or no relief attends the latter.
6. Instances of uteri with patulous canal, and dysmenorrhœa.

It has often been claimed that the benefits obtained by dilatation with bougies and cutting instruments prove conclusively the obstructive nature of the disease. The immediate introduction of medium or large sized dilators and hysterotomes under the impression that some obstruction is to be overcome has been practiced and recommended. Could it have occurred to these operators that the simple possibility of the immediate introduction of such instruments was conclusive proof of no obstruction? The theory of dysmenorrhœa based on mechanical obstruction is not demonstrated. What, then, is the nature of dysmenorrhœa? It is a functional disorder of the uterus, and in its essential and underlying nature a neurosis. It presents many features analogous to other visceral neuralgias. Associated or not with organic disease, sometimes developed, more often aggravated by them, clinical evidence tends to the idea that the neurotic is the only feature in most cases, and is manifested to a greater or less extent in all. The temperament of the dysmenorrhœic is generally highly sensitive and impressionable. The local neurosis is generally an expression of an impaired, disordered, highly developed nervous system, and the condition is too often the penalty of a poor inheritance, a bad hygiene, a forced education, and the false stimulus of our modern and artificial life.

Treatment. Local treatment may be needed, fortunately very rarely, and only, however, after a failure following a general treatment thoroughly and fairly tested. General treatment is divided into that which is proper for the interval and that for the attack. Iron is indicated when the flow is scanty, imperfect, and lacks color. In opposite states of the menstrual flux, free, prolonged, or too frequent, arsenic has the decided preference. In every possible way the state of the general health is to be improved by the correction of faulty habits of dress, exercise, mental occupation, and especially diet, and by the employment of, not medicines simply, but various other therapeutic measures which modern medicine has added to our resources. Concerning electricity the most diverse views are entertained. Most good will certainly be expected from the constant galvanic current, and the external method is to be preferred to the internal method. With the cathode applied low over the hypogastric and moved to the ovarian regions, while the anode is applied over the sacral, lumbar, and dorsal regions of the spine, and a current of moderate intensity is passed for twelve to fifteen minutes several times a week. The remedy is indicated only in the purely neurotic, spasmodic, or rheumatic forms of the disease. He has found a combination of mercuric bichloride and potassic iodide in small doses three times a day for a long time, exceedingly efficacious in some cases. The concentrated tincture of cimicifuga given in moderate doses for three days prior to the expected period, and continued in smaller doses at short intervals during the time of pain, is very efficacious in some cases.

Dilatation of the cervical canal, contraindicated only in certain uterine and perimetric complications, is indicated in all neurotic and spasmodic forms of the disease, after a failure with medical and constitutional treatment. The best method appears to be by graduated bougies or sounds and the two-bladed expanding dilator.

It must be the conviction of every gynecologist who has watched the history of the operation of incision of the cervix that its value has been greatly overrated, that it has been performed too frequently, and, of course, unnecessarily and unjustifiably. But, although incision of the cervix has stood the test of time, time has also fixed its proper field of utility. Compared with dilatation by tents, bougies or expanding forceps, the results are not only more permanent, but much to be preferred in all those cases where there is decided organic contraction of the cervical canal with or without elongation, rigidity and thickening of tissue, and various other secondary lesions. It is a question whether many of the cases of congenital stenosis in married women, so soon as it is reasonably manifest that they are in consequence sterile, ought not to receive appropriate surgical treatment before secondary complications arise. Believing that stenosis is far more frequent at the external than the internal os, it can be understood how on this ground sterility is more frequent and persistent than dysmenorrhœa. It is well now

impossible for sterility to be continued for a period of five years of married life without creating local uterine disease, and the only rational treatment so soon as the local condition will permit is to strike at the original cause and open up the stenosed canal by incision.

MENSTRUATION AND OVULATION.

We abstract the following from an article which appeared in the *Medical Age*, a synopsis of a contribution to the subject by Leopold, of Dresden, and published in the *Am. Journ. of Obstetrics* :—

The changes which menstruation causes in the condition of the uterine mucous membrane; the relations of menstruation to ovulation, whether the maturation of an egg is periodic or not; whether the corpus luteum represents a typical transformation; and how, as to time, menstruation, the rupture of a follicle, and a consequent pregnancy, are related, are subjects and questions in regard to which nothing is settled and positive. The author addresses himself in this paper to the question, as to the relation, in regard to time, of the maturing of an egg, the rupture of a follicle, and the formation of a *corpus luteum* at the monthly flow. Twenty-nine cases are included in his series, covering periods of time which vary from the first to the thirty-fifth day from the beginning of the last menstruation. Valuable as are the facts obtained by the analysis of these cases, the author does not regard them as establishing fixed principles. They are rather to be considered as a contribution of probabilities which will, some day, enter into the argument whereby these principles will be established. As regards the Graafian follicles, the probabilities are that one or more are always present in a mature condition; any great excitement, coitus, for example, may rupture one, either at once, or on the following day; hence a healthy woman is liable to conceive at any time during the child-bearing period. If pronounced anemia or chronic inflammation of the ovaries exists, it is probable that conception will not occur, though menstruation may be regular. Two or more contiguous follicles may coalesce and rupture simultaneously; this may have a bearing upon the question of multiple pregnancy. These follicles vary in size and yet may be equally mature. Their distention with blood may be the cause of dysmenorrhoea.

The second series of probabilities is with reference to the corpora lutea. In the first day of its history it is a ruptured follicle filled with blood; on the third day it is a large blood cavity. From the eighth day appears a fine border, while the center of the cavity remains distinct. From the twelfth day the border becomes thicker, and folds are developed in it. From the sixteenth day it assumes a yellow tinge. About the twentieth day the cavity begins to contract, the border becomes yellower, and sends out rays, in the shape of narrow folds, toward the center. Contraction continues from the twenty-fourth to the thirty-fifth day, the latter being the limit to which these observations were made. Corpora lutea are typical and atypical, the former beginning during the menses, the latter between them, and as they are not so well provided with nourishment, have a briefer history. It is therefore evident, if the former be true, that menstruation may occur without ovulation, likewise that ovulation may occur without menstruation; a mature follicle may rupture at any time. The following propositions in regard to menstruation are also offered; it is a phenomenon which is peculiar to the female organism, the origin of which is in the ovaries, its means of external expression in the uterus. On account of its periodicity, it is to be reckoned in the category of other rhythmical vital phenomena, as the pulse and the respiration. Proof that menstruation is fundamentally a function of the ovaries lies in the fact that their removal causes its disappearance. It is true that the uterine mucous membrane shares in the recurring monthly congestion of the pelvic organs, but it must be borne in mind that the periodical congestion of the ovaries has probably long existed before the uterine menstrual phenomena appear. The latter is also greatly influenced by constitutional conditions. It is probably safe to say that the external manifestation of menstruation is entirely dependent upon the anatomical condition of the uterus, especially as to its mucous membrane.

DISEASES OF CHILDREN.

ANATOMICAL CHARACTER OF DIPHTHERITIC CROUP.

By W. H. WELCH, M.D., Prof. of Path. in the Johns Hopkin's Univ., Baltimore.

The following appeared in the *Med. Record*, April 5, 1884:—A part of the confusion regarding the pathology of diphtheria and croup is due to a failure to distinguish between the anatomical use of the terms diphtheritic inflammation, and croupous inflammation, and the clinical significance of the terms croup and diphtheria. Every pseudo-membranous inflammation of a mucous membrane is called by pathologists either a croupous or a diphtheritic inflammation, without regard to the cause of the inflammation. An essential condition of such pseudo-membranous inflammation appear to be a destruction or a profound alteration of the epithelium covering the mucous membrane. This destruction or alteration of the epithelium may be only in small patches, or it may involve the greater part of the epithelial covering of the affected mucous membrane.

The false membrane differs in its constitution in different cases, and particularly according to the situation of the inflammation. In some cases the false membrane consists of a coagulated exudate from the blood, and then the process is called croupous inflammation. In other cases the false membrane is composed wholly or in part of a portion of the mucous membrane itself, which has undergone a kind of coagulation, and then the process is a diphtheritic inflammation.

A croupous membrane contains fibrillated fibrin, often not differing from that found in inflammations of serous membranes, or that resulting from coagulation of liquor sanguinis. It also contains a greater or less number of leucocytes, and these may undergo a hyaline metamorphosis or coagulation necrosis, and matted together form an integral part of the false membrane. The membrane rests, at least in some part of its course, either upon the membrana propria of the mucous membrane or upon necrosed epithelial cells. Croupous membranes as a rule are readily stripped off from the subjacent mucous membranes. Pseudo-membranous inflammations of mucous membranes, such as the trachea, covered with cylindrical epithelium, resting upon a thick basement membrane, are usually, but not always, of the croupous variety.

In diphtheritic inflammations either the epithelial cells or the superficial layers of the corium of the mucous membrane have been converted into a peculiar glistening hyaline substance with little or no trace of cell structure, and arranged usually in the form of an irregular and coarse network. When the false membrane is derived from the epithelial covering of the mucous membrane and occupies the situation of this epithelium the process is called a superficial diphtheritic inflammation by Ziegler, or less happily by Weigert, a pseudo-diphtheritic inflammation. When the false membrane is composed also of a part of the corium of the mucous membrane the process is a deep diphtheritic inflammation. Most of the diphtheritic membranes upon the tonsils and soft palate are of the superficial diphtheritic variety. During life, they are closely adherent, but at the autopsies they are often readily detached.

Diphtheritic membranes may contain ordinary fibrin as well as the hyaline or coagulated substance derived directly from the tissue of the mucous membrane. The change in the tissue producing the hyaline substance is described by various names, such as fibrinoid or diphtheroid degeneration, coagulation-necrosis, and hyaline metamorphosis. The hyaline material seems to be produced, at least in great part, by a direct transformation of the cells and tissue-elements. This material, although it is believed by some to be produced by a fibrinoid coagulation of cell-substance, differs from ordinary fibrin in several respects. It is much more refractive, and is much more resistant to the action of acids and of weak alkalies than is fibrin. It also reacts differently toward various staining dyes. In addition to fibrin and hyaline material the false membrane may contain mucus, red blood corpuscles, leucocytes, intact epithelial cells, and bacteria.

The mucous membrane beneath a croupous or a diphtheritic membrane is more or less infiltrated with emigrated white blood corpuscles, and sometimes contains hemorrhages. Peters, working under v. Recklinghausen's direction, has recently called attention to foci of hyaline degeneration in the mucous membrane beneath the pseudo-membrane. Such foci are found mainly in the superficial layers of the mucosa. The hyaline degeneration involves, first, thrombi formed in the blood-vessels and the lymphatics, next the walls of the blood-vessels, and finally the adjacent connective tissue and inflammatory products.

The distinction thus drawn between croupous membranes and diphtheritic membranes is a histological one. It usually, but not necessarily, corresponds to the microscopical distinction adopted by most writers that croupous membranes are loosely adherent, and diphtheritic membranes are closely adherent to the subjacent mucous membrane. There are some writers who do not see any use in distinguishing between croupous and diphtheritic exudations, and employ for both one term, which is sometimes croupous, sometimes diphtheritic, and sometimes fibrinous inflammation. The distinction which has been drawn, however, seems a useful one, even if its application in individual cases is not always easy, a difficulty, indeed, with most of our classifications in medicine.

Diphtheritic and croupous inflammations of mucous membranes may be produced by a variety of causes, of which the special poison of the disease diphtheria is only one. The false membranes produced by the special poison of diphtheria have nothing about them, so far as we at present know, which distinguishes them from false membranes produced in the same situations by other causes. Most pathologists do not accept the view of Klebs, that in diphtheritic membranes micro-organisms exist, which can be distinguished, by certain characteristics, from similar organisms in decomposing fluids and in other places. The presence of bacteria in the diphtheritic membrane, and, what is of more importance, in the lymphatics and lymph-spaces of the affected mucous membranes, and in internal organs in diphtheria, has been often observed, and the observation is of interest and importance; but it cannot be said that diphtheria is at present one of the strongholds of the germ-theorists. Most of the arguments urged by the opponents of the germ-theory can be presented with especial plausibility as regards the existing observations of bacteria in diphtheria. One's position with reference to the existence of specific micro-organisms as the cause of diphtheria, will therefore depend upon his attitude toward the germ-theory in general. Dr. Welch believed that such organisms do exist in diphtheria, but their special characteristics are not known, they have not been satisfactorily isolated by fractional cultivation, and inoculation experiments have not yielded uniform and clear results.

THE TREATMENT OF DIPHTHERIA AND CROUP BY LARGE DOSES OF BICHLORIDE OF MERCURY.

By WILLIAM M. THALLON, M.D., Brooklyn, N. Y.

From the *N. Y. Med. Jour.*, April 12, 1884:—It is within the last few years only, that the treatment of diphtheria and croup by means of large doses of the bichloride of mercury has been brought forward in therapeutics. I do not know exactly who was the originator of the method in question, but it is often called "Pepper's treatment," from the fact that Prof. Pepper, of Philadelphia has warmly endorsed it. I believe he ascribes the originating of the plan to a practitioner of Pittsburgh, or its immediate vicinity.

The drug has been used in two ways in the treatment of diphtheria:—(1.) As a local application, either in the form of a spray or wash to the diseased parts. (2.) As a constitutional remedy.

It has been used only in this second manner in all the cases that I will report this evening. I am inclined to use locally only such means as are sedative to the inflamed parts—such as ice.

I do not think it is practicable to destroy the organisms which are undoubtedly present in the foul-smelling membrane of diphtheria by a sufficiently

strong wash of bichloride of mercury without exciting an amount of irritation, which far more than counterbalances the possible good.

Besides, our throat applications are only on the surface; they don't reach deep enough.

The disease kills, not by its local but constitutional effects. It is therefore purely as a constitutional remedy that I have used the bichloride of mercury in these diseases.

With regard to its mode of administration, the first point is that it should be given largely diluted with water. I think this should be invariably insisted on, because thereby you avoid the possible danger of irritating the mucous membrane of the stomach.

With reference to how long these large doses of the bichloride should be used, I should say as short a time as necessary. And the criterion which I have mainly followed is the state of the false membrane. If this is increasing, I increase the drug; if it is stationary, I maintain the same dose; if it is decreasing, I diminish the remedy; and, if the membrane has disappeared, I at once stop the bichloride.

I have found it convenient to have two standard formulas, according as I wish to combine iron with the mercury or not. I generally write for a three-ounce mixture, with half a grain of the bichloride, so that each tablespoonful contains about one-fortieth of a grain. The following are my prescription models:

Formula I.—R. Hydrargyr. bichlor., gr. ss.; tinct. ferri chlor., f 3 iij; glycerin., f 3 ss.; aquæ, q. s. ad. f 3 iii. M. Sig.—f 3 j, as directed, in water.

Formula II.—R. Hydrargyr. bichlor., gr. ss.; vin. pepsin.; elixir bismuthi, aa 3 jss. M. Sig.—f 3 j, as directed, in water.

The second formula is the pleasantest way of prescribing the remedy, and it is the one used by Dr. Pepper. Practically, I now generally begin with the second formula, and when convalescence has commenced, I resort to No. 1 to get the benefit of the iron. The histories of ten cases are then given.

THE MEDICINAL, MAINLY MERCURIAL, TREATMENT OF PSEUDO-MEMBRANOUS CROUP.

By A. JACOBI, M.D., Clin. Prof. Diseases of Children, Coll. Phys. and Surgs., New York.

Dr. Jacobi concludes a paper published in the *Medical Record*, May 24, 1884, as follows: It is not enough to administer hydrargyrum bichloride; to be effective, enough must be given, and quickly enough. The doses must be large, and largely diluted. Both local and constitutional effects must not be feared. They will seldom be met with. If they are, they amount to little in comparison with the mortal enemy you are going to fight. Mercurial stomatitis in infants is very rare indeed, and will readily heal. In larger children, of from two to five years, it appears but late, if at all; as a rule, the administration of mercury is the less objectionable the younger the patient. My doses have varied from $\frac{1}{16}$ to $\frac{1}{4}$ of a grain (1 to 2½ milligrammes), every hour, and the treatment has been continued from one to six days. Dr. Jacobi relates the histories of illustrative cases and then says:

I shall here suggest again, what has been the gist of the remarks of the evening, in brief words: (1.) The mercurial treatment of pseudo-membranous affections of the respiratory organs is promising of great results. (2.) The corrosive sublimate is the preparation best adapted for internal medication. (3.) The system must be brought under its influence speedily, by frequent doses. (4.) It must be given in dilutions of 1 to at least 3,000 to 5,000. (5.) Babies of tender age bear one-half grain and more a day, and many days in succession. (6.) Salivation and stomatitis are rarely observed, and appear to heal kindly. Gastro-intestinal disturbances are not frequent; they are moderate, can be avoided by the administration of mucilaginous and farinaceous food, or of mild doses of opium. (7.) If not well tolerated, the inunction of sufficient and frequent doses of hydrargyrum oleate takes the place of the corrosive chloride, either together, or alternately with the inter-

nal administration. (8.) The treatment of croup may be preventive to a great extent. Most of the cases are complicated with, or descend from, diphtheria of the fauces. Here the preventive treatment of croup must begin. Without desiring to encourage mere local treatment, which in unwilling patients requires force or violence, thereby doing great harm, I point to the peculiar local effect of mercury on the pharynx, both in the healthy and sick, as a preventive of the threatened invasion of the larynx.

THE TREATMENT OF CROUP BY TRACHEOTOMY.

By JOHN H. RIPLEY, M. D., Prof. of Diseases of Children, N. Y. Polyclinic.

From the *Medical Record*, April 5, 1884:—

Indications for tracheotomy.—It would seem that there could be no indications where there is no croup, and yet I have known of operations being proposed where certainly there was no obstruction in the larynx or tubes beyond, but only nasal obstruction with mild catarrh of the larynx. These mistakes could not occur if the proper physical signs were relied on. The night-time is the most dangerous part of the twenty-four hours during which to leave a croup patient without a watcher. Now, while I am in favor of closely watching cases of croup, and of being prepared to operate promptly, I am not, as a rule, in favor of very early operations. The operation should be done sufficiently early to give the operator time to do it carefully, and when once it has been decided that there is no probable chance without it, it is cruelty to the child to delay. There are cases which justify, perhaps demand, early surgical interference. Infants under two years of age, and especially those less than a year old, succumb very rapidly, often rather suddenly, to the disease, and we may wait too long. Profound blood-poisoning or other complication may exist, which makes it dangerous, and even prejudicial to recovery, to delay. But, ordinarily, I should say we ought to wait until the respiration becomes continuously labored, with marked symptoms of cyanosis and beginning failure of the vital powers.

If I agreed with those who believe that tracheotomy predisposes to pneumonia, I should still more strongly urge against early operations.

Contra-indications.—In regard to contra-indications, I am confirmed by additional experience in the opinion that I expressed four years ago, viz.: "That tracheotomy for croup is always a justifiable operation if the paramount factor in causing death be apnoea." I would tracheotomize a child dying of croup, even although I knew it to be suffering at the same time from extensive bronchitis, pneumonia, or uræmia, or all three of these complicating diseases. There is a prevalent opinion that it is possible to distinguish favorable from unfavorable cases before the operation, and thus the operator is enabled to "select his cases." If this were so, it seems to me that it would be very inhuman in a surgeon to practice it. Surely he should not abandon a number of children to certain death by suffocation on account of endangering his reputation as a successful operator. But, as a matter of fact, a prognosis based on the condition of the child before the operation, is unreliable. Especially is this true when such prognosis rests on the result of a physical examination of the lungs.

Prognosis.—The prognosis after the operation will depend in a majority of cases on whether membrane forms to such an extent below the tube as to involve extensively the bronchial tubes, and so produce secondary or bronchial croup. Pneumonia, whether catarrhal or croupous, has been, in my experience, an exceedingly rare cause of death after tracheotomy, and I do not see why it should be otherwise.

Tracheotomy.—Tracheotomy for croup is said by many to be a simple operation, and quite free from danger. When applied to a limited class of cases, this statement is true. But generally it is not only a difficult operation, but one attended with great immediate danger to the life of the patient.

I prefer to operate below the isthmus, because (1) the calibre of the trachea is greater at that point than above, and (2) because I can subsequently explore the interior of the trachea better in case of obstruction or other trouble;

and (8) I believe there is less danger of permanent injury to the larynx, especially if the tube is to remain in a long time. On the other hand, I do not favor opening the trachea lower down than necessary. The superficial incision should not reach nearer than within half an inch of the sternal notch, which is an important landmark during the operation. Emphysema of the superficial cellular tissue of the neck can always be prevented by seeing that the tube extends well into the trachea, and that the soft parts are not closed too tightly around the tube.

After-treatment.—It would no doubt materially increase the number of recoveries after tracheotomy, if a competent nurse, one especially skilled in the management of these cases, could be kept in continuous attendance until convalescence should be fully established. In most of the cases that I have operated on during the last four years, no medicine whatever has been given until after the establishment of convalescence. In nearly all, stimulants in the shape of brandy, whiskey, or champagne, have been taken freely. Milk has formed the principle article of diet. Iron, cod-liver oil, and hypophosphites have been given later. Locally, so far as membrane of the wound, fauces, or nose was concerned, I have done substantially nothing. If acrid discharges from the nose or wound were producing excoriations of the contiguous parts, I have tried to keep the offending parts clean. Whenever I have had harsh and obstructed breathing, I have used simple steam or lime-water spray.

After the tube is permanently removed, it is not necessary to either suture or strap the wound. A little pad of marine oakum or other cleanly and porous material placed over it, and held loosely in position by a roller, will sufficiently protect it until it heals, which will require but a few days, provided the child has recovered from the disease.

FIBRINOUS EXUDATIONS IN THE UPPER AIR-PASSAGES.

By FRANK H. BOSWORTH, M. D., Prof. Diseases of the Throat, Bell Hosp. Med. Coll., New York.

In the *N. Y. Med. Jour.*, May 24, 1884, appeared a paper by Dr. Bosworth on "The Clinical Significance of Fibrinous Exudations upon the Mucous Membranes of the Upper Air-Passages," from which we take the following. After speaking of *acute follicular tonsillitis*, and croupous tonsillitis, the author says:—Diphtheria, in all its aspects, is a septic and asthenic disease, and presents a totally distinct clinical picture from croup; and yet, it seems to me, there can be but little doubt but they are both germ diseases. In diphtheria, the germ lodges upon the mucous membrane of the fauces, and, exciting a local inflammatory process at its point of entrance, makes its way into the blood, producing there the train of symptoms which constitute the essential constitutional features of the disease—viz., primary septic blood-poisoning. At the point of inoculation the germ reproduces itself, and constitutes the source of a secondary blood-poisoning by absorption from the false membrane in the fauces.

Dr. Bosworth concludes his paper by saying:—The points, then, on which I would place especial emphasis are as follows: (1). A fibrinous exudation which occurs in the crypts of the follicles of the faucial or pharyngeal tonsil, or of the mucous membrane of the lower pharynx, has no tendency to extend, and characterizes a disease which is self-limited and which involves no dangerous tendencies. (2). A fibrinous exudation which occurs upon the surface of the tonsil or of the mucous membrane of the fauces, constituting a croupous membrane, so called, presents gross appearances by which it can be unmistakably recognized. It is easily detected, and can be peeled off from the parts beneath without lacerating the tissues. It is a white, clean, healthy-looking membrane, and presents every aspect of a living tissue. (3). A croupous membrane in the fauces of an adult marks the existence of a disease which, while being undoubtedly a blood-poison, is still a self-limited affection, and one which involves no danger to life. (4). A croupous membrane forming in the fauces of a child marks the occurrence of the same disease as a croupous membrane in an adult; but in the child there is the additional danger of a new center of development occurring in the larynx, where

it may involve the greatest danger to life, but mainly as a mechanical obstruction to breathing. (5). A diphtheritic membrane developing in the fauces marks the occurrence of a disease which is dangerous to life, not only from primary and secondary blood-poisoning, but also from the tendency to the development of the same morbid process in the larynx.

THE EARLY MANAGEMENT OF INFANTILE PARALYSIS.

By G. BETTON MASSEY, M. D., Electro-Therapeutist to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases.

The following is from a paper published in the proceedings of the *Philadelphia Clinical Soc.*, Feb. 22, 1884:—It is to the first stage and its diagnosis that I wish to call especial attention. The child, from one to three or five years of age, in perfect health, is suddenly attacked with intense fever. The diagnosis of the acute attack may be summed up under four points, viz.: 1st, sudden motor paralysis, usually of one or both legs, subsequent to fever—possibly in its absence; 2d, absence of any disturbance of sensibility; 3d, absence of paralysis of bladder or rectum; 4th, absence of marked cerebral disturbance other than that due to the febrile movement.

Having properly diagnosed the case, what should be done to relieve the little sufferer and lessen, if possible, the threatened deformity? If called in at the outset, institute without delay an active antiphlogistic treatment, directed to the seat of the disease in the cord. This should consist of blisters on the back, over the lower dorsal and upper lumbar vertebræ, if the case be the usual one of paralysis of the lower limbs; higher up, at the nape of the neck, if the shoulder or arm is affected; revulsives to the extremities; low diet and appropriate constitutional treatment. No electrical applications should be used at this time, except possibly for purposes of diagnosis, since the condition is one of acute irritation. Such would be the proper treatment for the first four or five days. After that time, and when the blister has healed, gentle, continuous currents (galvanic) of two or three minutes' duration should be applied to the back, and the regular galvanic applications to the muscles be begun. These should consist of the galvanic current so interrupted as to produce contractions when the poles are applied close together on the muscles. No more current should be used than is necessary to obtain motion; and, since the reaction of degeneration is always present in the early stages, it will be found that placing the anode above will insure the greatest activity of the muscle with least pain. It is by no means necessary to make each muscle contract separately, but careful attention should be bestowed upon the physiological groupings of muscles, in order that those that are naturally associated in movement should be simultaneously acted upon. The galvanic form of electricity only should be used; and I cannot here too strongly condemn the usual prescription of faradism for such cases as unscientific and totally useless. Even if galvanism fails to produce contraction, the well-known electrolytic and catalytic effects of this current make it of great service to the paralyzed muscles.

The sittings should be repeated thrice weekly for months at a time, and should be alternated with thorough professional massage, if possible. Under such a régime, and with the prescription of small doses of strychnia in late stages, it is certain that the paralyzed member can be kept nearer to the condition of its more quickly growing fellow by persistent and careful treatment. If neglected during the first years, the loss of time is irreparable.

INFANTILE PARALYSIS—WHAT CAN BE DONE, BUT MORE ESPECIALLY WHAT CAN NOT BE DONE, IN THE WAY OF TREATMENT.

By AP MORGAN VANCE, M. D., Louisville, Ky.

From the *Louisville Med. News*, April 19, 1884:—The above ailment is essentially one of early infancy, though cases have occurred in older children, and very rarely in adults.

The diagnosis of this disease is comparatively easy, especially so when the cases reach the surgeon's hand.

The treatment is the important thing to be considered. To begin, we may ask the question, "What can the physician do in these cases?" In my humble opinion, *nothing*, absolutely nothing beyond giving a certain amount of comfort to the parents by his presence. I believe that nature does all the repair without being helped one iota by treatment; that is, all return of muscular vitality occurs spontaneously. To the question, "What can the surgeon do for these unfortunates?" the answer is about the same as to any other than palliative treatment, and I am sorry to say this is very little. In extreme cases the results at best are, I believe, worse than death, and it is not uncommon to have parents say when they hear the bad prognosis, "I would rather my child were dead." Every variety of deformity follows, according to the muscles whose power is lost. This is caused by contraction of muscles and by adaptation for gravity. The common treatment in these cases is to order electricity. The only good possible by this measure is development by the exercise thus artificially produced of the muscles untouched by paralysis, or those spontaneously revived. When a muscle or group of muscles on one side of a limb is paralyzed, I think harm may result from over-developing those upon other side, which tend to produce the deformity. Massage properly applied does everything that can be done by electricity.

To sum up what I consider justifiable treatment, I will say that from the first these cases are essentially surgical, and that all the surgeon can do is to watch in the early stages for deformity, and by the simplest apparel prevent it, when deformity is present, overcome it, and by the same simple mechanical appliances supply, as far as possible, the muscular loss, watching for spontaneous improvement; and if this improvement takes place in muscles so attached that their development would help in preventing deformity or aid in locomotion, develop them by massage and faradism. The prevailing idea that electricity has some curative action in this form of paralysis, is to my mind fallacious. It cannot possibly do any good to treat the branches when the roots and trunk of the tree are rotten.

THE MANAGEMENT OF CHOREA.

By C. H. HUGHES, M.D., St. Louis.

The following is from the *Weekly Med. Review*, March 1, 1884:—In the management of chorea it is essential to make a prompt and thorough cure of the first attack, if possible. In the management of this affection, therefore, no plan could be more prejudicial to the real welfare of the patient, present or future, than the so-called expectant plan.

An essential therapeutic procedure in a large majority of cases promotive of a tendency to recovery, is the removal of the child from home and the unsanitary surroundings (speaking in a neurological sense), under which the morbid condition has been engendered.

The change from the usual environment should be agreeably diverting to the patient and calculated to call into exercise the volitional powers, while being of such a sanitary character as to be promotive of exalted nutrition, invigorating sleep, mental tranquilization and hæmic enrichment. Pure air, free sunlight, and an agreeable temperature should be sought in making the change.

Despite the theories that have been advanced of the dependence of chorea upon rheumatism, based upon its frequent association with antecedent rheumatic fever and co-existent cardiac bruit, it will be found to often follow after a scarlatina, aggravated measles, whooping cough or other cause of depressed vitality if of sufficient intensity to implicate the stamina of the cerebro-spinal axis in such as possess inherent neuropathic tendencies. It is often associated with hysteria and epilepsy.

To treat chorea successfully, we should suppress, as far as we can, involuntary movement from the very beginning, by giving the child the necessary moral encouragement and strengthening its will-power, by surrounding it with new demands upon its attention and volition as well as by medication.

The sympathetic treatment that fosters hysteria is equally objectionable in chorea. The child wants encouragement that it may not yield any more of its control than it is obliged to, in order that it may not become discouraged and give up entirely to the erratic movements.

The medical treatment should be descending cerebro-spinal galvanism and arsenic to restore trophic nerve power and tranquilize the psycho-motor area; chloral hydrate and sodium bromide, in moderation, especially at night, to secure complete cerebro-spinal rest, and the neurotic and hæmastic tonics, iron, the hypophosphates, zinc, cod-liver oil and strychnia, the latter very sparingly. A milk diet is preferable to all other simple substances, but the patient should be fed on a generous variety of food.

If we watch our patients closely we shall find some of them troubled with symptoms of laryngeal nerve irritation and spasms. When the spasm is not great enough to attract our attention in the day time, we may often learn of its existence from statements made by the patient or nurse in regard to the child's having a troublesome night cough.

I do not know why the cough should appear at night and be absent all day. I have seen it regularly recur at bedtime and continue through the night to the great disturbance of the patient's rest.

CHRONIC NASAL CATARRH IN CHILDREN.

By HARRISON ALLEN, M.D., Prof. of Physiology in the University of Pennsylvania.

Prognosis.—The prognosis of simple cases of acute, and of subacute nasal catarrh is always favorable. The prognosis of the chronic cases should be guarded.

Treatment.—The details of the treatment may be embraced under the following heads: (1) Removal of the obstruction of the discharges and the reduction in size of the swollen membranes. (2) The applications of mercurial ointment to the vestibule. (3) Straightening the nasal septum and overcoming atresia. (4) The administration of general tonics, etc: (a) The removal of the daily accumulation of the discharge in the nose and naso-pharynx is a matter of great moment. If the discharge is in the nose, it may be removed by dropping into the nose by a pipette (the head being thrown back) a few drops of a detergent lotion.

When a mucoid discharge collects in the naso-pharynx, it is best removed by the use of the pharyngeal syringe. The instrument used should be smaller than the one sold under this name. An instrument of convenient form can be improvised by attaching an Eustachian catheter to the nozzle of a No. 1 india-rubber syringe, or to the smaller syringe used by dentists. The rule should be subject to no exception that the liquid is to be placed above the palate with the greatest care and gentleness, and a very small quantity, not over twenty to thirty drops of the liquid thrown in. Should force be used by sending into the chamber a larger quantity of liquid than it can retain, and obstruction be present in the nasal chambers, the fluid will be exceedingly apt to pass up in the ears. Too much stress cannot be laid upon this source of danger.

Any detergent dissolved in tepid water suffices for the purpose of making these applications. Weak solutions of carbolic acid and glycerine, namely about a drop of the acid to two drops of glycerine dissolved in an ounce of water, is as good as any. Boracic acid in almost any strength; common table salt; potassium chloride; are all in use with physicians, and are found efficient. The use of astringents, so universally mentioned, can be discarded. As for the preparations of iron, they are without exception mischievous. (b) The condition of the floor of the nasal vestibule almost always demands attention. The use of mercurial ointments, such as are employed by oculists for blepharitis and granular lids, is followed by most encouraging results. The ointment of the red oxide of mercury, in the proportions of one grain of the salt to one drachm of cosmoline, is well borne. The ointment is best applied with a camel-hair brush to the interior of the nostril before retiring. (c) The operations for misplaced nasal septum present no peculiar features in children. (d) In order to correct the discharge, which is apt to be of a simple character,

it is necessary to care for the general health. The extent to which the tonsils should be reduced in size is to be determined by the degree in which they obstruct respiration. It is evident that the tonsils need not, and indeed should not, be excised unless they are known to interfere with respiration, in which event they should be removed without hesitation.

ATROPINE IN WHOOPING-COUGH.

By FRANK WARNER, M.D., Columbus, O.

From the *Cincinnati Lancet and Clinic*, May 10, 1884:—Excluding scarlatina, it is one of the most uncertain diseases in its career of all the infectious maladies. Commencing mildly, it may terminate fatally; or, beginning severely, it may soon merge into a benign type of the disease; and sometimes, when in all appearances, it has ended its career, it suddenly reappears, after an interval of several weeks. It is usually ushered in by a severe catarrh, yet the characteristic "whoop" is often the first thing to attract attention. Trousseau inaugurated the treatment of whooping-cough by atropia, not using, however, the alkaloid, but belladonna in the form of extract or simply the powdered drug. But atropia is much preferable, for it is of definite strength, tasteless, and the dose can be more easily regulated because of its unvarying strength. One of the best ways of administering the remedy to children is in $\frac{1}{16}$ gr. doses, three or four times a day. To test the question of its usefulness, one should note the number of paroxysms in the twenty-four hours, as suggested by Trousseau, or, perhaps what is better, include in your observation only the paroxysms occurring during the waking hours, as one is apt to miss counting one or more of the nervous manifestations occurring during the night. In many cases, after a few days, we find a steady diminution in the number of paroxysms, also a diminution in their duration, as well as an alteration in the character of the "whoop." But if the atropia be now withheld, they again recur with their former frequency and character.

Three or four days have generally elapsed before any diminution can be noticed either in the character or number of "whoops," and all cases will not respond with equal facility; indeed, I may say that many will not respond at all to its influence. But still a fair proportion of the cases do better under the use of atropia than by any other mode of treatment.

There is no medicine which has so calmative an effect upon the pneumogastric nerve and the medulla oblongata as atropia. It diminishes both irritability and sensibility. It is highly probable that atropine exerts its beneficial influence in whooping-cough by diminishing the capacity of the terminal filaments of the laryngeal nerve to receive impressions, and also by decreasing the capacity of the medulla oblongata to excite reflex action.

INFANT FEEDING.

By JOHN M. KEATING, M.D., Visiting Obstetrician to Philadelphia Hospital.

The following is from the *Archives of Pediatrics*, February, 1884:—*Milk* should form the basis of all preparations of food.

Let us suppose that you are confronted with a case in which the mother, having nursed her child for some months, finds her milk gone, and it becomes necessary to establish hand-feeding. She tells you that her child no longer receives the amount of nourishment that it should. Convince yourself of this fact before you make any change; take the appearance of child into consideration, examine its muscles to see if they are firm, and judge whether or not it presents a rosy hue of health. Examine the mother's breast, and if you think that a course of tonics, with outdoor exercise or change of food will increase the supply, by all means have recourse to them before making a change. Remember that the milk does not always remain constantly in the mother's breast, and that frequently those who are able to nourish their children with an abundant supply, have, between nursing hours, scarcely any evidence of milk whatever; the application of the child will, however, produce a flow in a few moments.

I give you all these points because frequently mothers wish to wean their children too young, and I firmly believe that encouragement and firmness on the part of the doctor will in very many cases give a child a far better chance in after life. If the child is six months old, or thereabouts, and you find it necessary to establish hand-feeding at once, the following would probably be the best plan to adopt: Order nurse or mother to take a quart of morning's milk which is pure and fresh—better than not from a mixed dairy—and dilute with a half of a pint of water; put on to boil; take of Robinson's prepared barley, which comes in packages, a heaving desertspoonful or tablespoonful; rub this to an even paste with a small quantity of milk; then add to it the milk that is boiling, and *stir this for twenty to thirty minutes*, letting it boil. This should be strained, and a small quantity, say a teaspoonful, of white sugar added to it, the whole to be placed in the refrigerator for the day. When cool a jelly will be formed. Of this, the child should take about four ounces, made fluid by heating, and strained in bottle or by spoon, every three or four hours. The last feeding would for a time be about ten o'clock in the evening; after a few months the child will need nothing after usual bed-time until first meal in the morning, at about seven o'clock. "Bethlehem Oat Meal" can be used in the same way as the prepared barley. The wheat foods may be used in the same way; they are apt to constipate, however.

At times it may be well in preparing the food to mix these various articles, as a child needs a variety in taste as well as a grown person. If a child is younger than six months, of course it will be necessary to add a larger percentage of water and a smaller amount of cereal. I have found the preparation that I have suggested applicable in the majority of cases, and especially in those children who are apt to suffer from indigestion during the summer season, with its unfortunate results. It is also useful when gradual weaning is thought advisable. As far as condensed milk is concerned, I am satisfied that it is an extremely valuable preparation, but not one upon which it should be attempted to raise a child. It is useful as a bridge to tide over difficulties. Prejudice has frequently interfered with the use of condensed milk, I regret to say. It is certainly nutritious and easy of digestion, and frequently will agree, when properly administered, with a child whose stomach is tolerant of other food.

It is easy enough to find some form of diet that will nourish a healthy child. The most difficult problem to solve is the food to be administered to an infant who is delicate from birth and cannot nurse, one who is suffering from some form of intestinal catarrh, or one whose digestion has been totally upset by a severe attack of summer complaint.

If a child is so weak that it will not digest the mildest form of prepared food, and it is impossible to obtain breast milk, the only proper thing to do is to give some form of food which requires but little action of the digestive juices, or to prepare the food so that it is partially digested beforehand.

I have used for some time with great advantage, egg albumen dissolved in water, as a food for sick children when the stomach was intolerant of ordinary milk food, also gum arabic water will nourish for a surprisingly long time, and allay irritability.

The barley food, as recommended above, would be valueless in a case of this kind, and pure cow's milk diluted to resemble as closely as possible the mother's milk, would be regurgitated; in such cases, and they are very frequent in the summer months, the preparation of milk which has undergone partial digestion by the pancreatic ferment, in an alkaline condition, I have found most useful. The preparation is one which must be made with care and according to the following directions: Into a clean quart bottle put a powder of five grains of Extractum Pancreatis and fifteen grains of bicarbonate of soda, and a gill of water; shake; then add a pint of fresh milk. Place the bottle in a pitcher of hot water, or set the bottle aside in a warm place for an hour or an hour and a half, to keep the milk warm; by this time the milk will become peptonised. When the contents of the bottle acquire a grayish yellow color and a slightly bitter taste, then the milk is thoroughly peptonised; that is to say, that the caseine of the milk has been digested into peptone.

Great heat or cold will destroy this digestive action, so as to prevent all further action, when you think that the digestion has progressed far enough, at once place the bottle of peptonised milk on ice, or into a vessel of boiling water long enough to scald its contents; it may then be kept like ordinary milk.

I have found from experience that it will be objectionable to the child if the bitter taste is at all well marked; the mother, who should receive your instructions, should be warned to frequently taste the milk during its digestion, and as soon as the bitter taste is the *least* apparent, the bottle should be placed on the ice for cooling and use, as in these instances it is sufficient to partially peptonise the milk.

Whey is another admirable alternative in these cases; it can be made in the usual way by rennet and afterward sweetened slightly and given to the child cold or warm as it prefers, in the same manner as ordinary bottle feeding; it may be made with wine and given when there is great weakness, being both nourishment and stimulant. Mothers do not often know how to make wine whey; the proper method is to put the milk to boil and when boiling put a wineglassful of sherry, say to the pint, into it, if the curd does not separate add more wine until it does, and as soon as you notice separation of the curd taking place add no more wine, but let the mixture boil for a time, until the whey and curd have been thoroughly separated, consuming about five minutes. This should be then thoroughly strained. It has been recommended to use lime water in the feeding of infants and young children. I am opposed to its indiscriminate use. I have seen children who could not tolerate even the ordinary weak preparation of the pharmacopeia; undoubtedly at times it may arrest vomiting, as we all know, both in children and adult practice, but I much prefer when it is necessary to use an alkali, and if you use cow's milk raw for a young babe, it is always advisable to see that it is made alkaline, to do it with a small quantity of bicarbonate of soda.

SINGLE SYMPTOMS IN THE DIAGNOSIS OF DISEASES OF CHILDHOOD.

By J. FEWSMITH, Jr., M.D., Newark, N. J.

From the *Western Med. Reporter*, May, 1884. Prepared from an article by L. M. Polizer, who is at the head of the Vienna Children's Institute:

I. *The symptom of a strongly marked nasal or palate sound in the child's cry.*—In many cases it may lead us to early diagnosis of *retropharyngeal abscess*. This nasal tone should *always* lead us to palpate with the finger in the throat, the only sure way to discover a retropharyngeal abscess. The cry is not pathognomonic, but P. narrates some interesting cases where he made the diagnosis from it.

II. *A long-drawn, ten to fifteen times lengthened, loud, sounding expiration, with normal inspiration and no dyspnea.* This symptom, even when alone, is sufficient for the diagnosis of *chorea major*. There is another analogous mode of respiration which is acknowledged by most physicians as sufficient for the diagnosis of *chorea major*. This is also a long expiration, but more bellowing, more like a protracted cough sound. This has been called *chorea laryngitis*.

III. *A high thoracic, continually sighing inspiration.*—It shows the commencement of *cardiac weakness, cardiac paralysis*, and in certain cases fatty degeneration of the heart. It is not a stenotic respiration (as in croup, etc.), shown by forcible action of the diaphragm principally, but high, thoracic, the upper part of the thorax doing the work, and instead of the stenotic sound, we have the sighing or groaning. Occurring in health, the author believes it very frequently to be the first and best symptom of primary acute cardiac fatty degeneration. The symptom is equally valuable in cases where the cardiac weakness has been caused by drugs.

IV. *Strongly marked diaphragmatic expiration, accompanied by a fine, high, whistling sound.*—This single symptom is almost the opposite of the last. It points to *asthma bronchialis*. The author guards himself here. The respira-

tion of croup or even of capillary bronchitis may greatly resemble this, but the point is that when we hear it, we should always incline to the diagnosis of asthma, and if other symptoms bear us out, we shall not have to give so bad a prognosis as otherwise.

V. *Pauses between the end of expiration and the beginning of inspiration.*—This is a valuable single symptom to differentiate between *catarrhal laryngitis* with submucous edema and catarrhal, spastic stenosis, and *true croup*. As long as the pause is clear and distinct the croup may be excluded. This is an important aid to diagnosis. The younger the children the surer is this sign. But the ear must be placed close to the child's mouth to make sure that there really is an appreciable pause.

VI. *A habitual, noisy, interrupted, bleating expiration*, the so-called *respiratio stridula*.—It is a symptom which always is single; that is, it points to no other disease and may exist for years without further developments. It is probably entirely a local, nervous phenomenon.

VII. A class of single symptoms which are of worth in the diagnosis of brain diseases.—(1.) *Sleepiness*, lasting some time and occurring without fever or other apparent disturbance to account for it. The first question is, has the child fever? When we find sleepiness for twenty-four to thirty-six hours *absolutely without fever*, we may regard it as a pathognomonic, initial symptom of idiopathic cerebral disease. This is almost as sure when the sleepiness comes on without fever or in the stage of defervescence in the course of any disease. In such a case, we think at once of basilar meningitis. Not even the vomiting, the long continued headache, the slow, irregular pulse, so surely predict it as *feverless* sleepiness. The sleepiness, even alone, is sufficient for a diagnosis. There are only two other things which could cause it, narcotics or uremia.

(2.) *A prominent, firm, fontanelle, not disappearing on pressure.*—This means increase of the quantity of contents of the cranium, *exudation* of some sort. It cannot be caused by fulness of the vessels alone. The symptoms may be valuable in the following cases: (a) Its *absence* in the delirium, sopor, and convulsions of violent fever will show us that the causes of the symptoms are extra-cranial. (b) In intermittens and fevers with high temperatures we can determine by its presence or absence the non-existence of cerebral complication. (c) In pneumonia, when we have sopor, convulsions, and even contraction of the neck muscles, a soft fontanelle will show us that there is still no exudation and in a few days all these symptoms pass away.

And so in the beginning and course of typhoid, in nephritis and in other diseases, the condition of the fontanelle is a valuable guide. When the fontanelle is soft, whatever the symptoms, we may exclude autonomous cerebral disease with exudation.

When the fontanelle, in addition to being enormously distended, is also entirely free from pulsation, it can mean but one thing, infantile apoplexy, intermeningeal hemorrhage. When the fontanelle is deeply sunken and the eyes in the same condition, the diagnosis of loss of fluid is evident at the first glance.

(3.) Very slow movement of the head and a staring look in the wide open eyes. This is one of the early symptoms of basilar meningitis, though not so valuable as the sleepiness already spoken of.

VIII. A series of single symptoms depending on the *variety of crying*. (a) A sharp, shrill cry, accompanied with an expression of fright or great anxiety, and occurring typically about an hour after the child has fallen asleep, is a single symptom in the strictest sense of the word. It is, in fact, the only symptom of the "alp" night terrors, the sudden awaking from bad dreams. The author recommends quinine. (b) Periodical crying, lasting from five to ten minutes, sometimes occurring day and night, but oftener only at night, should always make us think of spasm of the bladder or painful urination. (c) Violent crying at stool, with fear of the act and avoidance of it, points to *fissura ani*, generally accompanying constipation. (d) A violent cry, full of pain, almost continuous, with a throwing about of the head in the pillow and grasping it with the hands, means earache or otitis. (e) Crying continued for weeks increased on touch of the extremities, accom-

panied by fever and incessant sweating, may be a symptom of acute general rachitis. (f) The crying of habitual insomnia may point to numerous causes.

CONGENITAL LIPOMA.

By A. JACOBI, M. D., Clin. Prof. of Diseases of Children in the Coll. of Phys. and Surgs., New York.

The following is from *The Archives of Pediatrics*, Feb., 1884:—According to E. Lancereaux (*Traité d'anatomie path.* I., p. 841) lipoma is developed at every age; it has been observed in old people and in young infants. Even congenital lipoma has been known to occur. It has been met with as a hereditary disease; thus Murchison has the cases of a father and two daughters with fatty tumors on almost corresponding parts.

General obesity, that is hypertrophy of the adipose tissue under the whole of the surface and in the interior of the body will be rigidly excluded from my consideration.

Local hypertrophy of the adipose tissue will occur sometimes to such an extent as to increase the size of a limb enormously. The *hand* of a boy of sixteen years, described by Henderson in his *Notes on Surgical Practice* in Shanghai (*Edin. Jour.*, Aug., 1877), weighed eight pounds.

Congenital hypertrophy, with the development of a great deal of fat, is mainly found in the fingers, the volar side of which is liable to carry a large quantity.

The extremities will not be the only parts to exhibit such anomalies. The skin of the occiput and back, the abdomen, the upper extremities, besides the calves of the legs and the dorsal and plantar surfaces of the foot are the seats of such deposits. On the head lipomata are found but very rarely. Rokitsansky and Virchow agree on this point, and also in the cases of that fact.

As a rule it must be taken for granted that lipoma will form under such circumstances, and in such localities where fat is normally deposited in disproportionately large masses. It has to be taken as the (pathological) excess of normal (physiological) growth. Thus in the adult, lipoma will mostly be found on the chest, shoulders, abdomen, and congenitally it will appear where physiological growth of fat is rapid. After having been developed its increase is generally slow; as a rule slower in the adult with an acquired, than in the infant with a congenital tumor.

The literature of the subject is not very extensive. Dr. Jacobi then makes brief reference to each case reported, and says:

The collection of cases extending over nearly a century proves the rare occurrence of congenital lipoma. The number of those which have come to my own notice is unusual in the experience of an individual observer. [Dr. Jacobi reports five cases.]

What I emphasized in my introductory remarks appears to be confirmed by the cases as far as reviewed. Few of them were capsulated, most of them diffuse. Some of the patients had both diffuse and localized and capsulated lipomata. Many were uncomplicated; some were complicated with teleangiectasia, either superficial or deep-seated, or with dermoid degeneration, or fibroma, or the formation of bone or cartilage, or calcification. The most interesting and dangerous complication was that with spina bifida—in my case.

The shape of congenital lipoma is frequently irregular, not spheroidal as it is in the adult. This difference is the result of its uncapsulated, diffuse nature. Processes and protuberances are not infrequent, and are apt to interfere with complete extirpation.

Its locality varies. Cases have been found all over the body. There is but a single case of lipoma of the head, but a goodly array of those on the back and particularly the lumbar and gluteal regions. Many are found on the extremities; the hands, and still more the feet yield the largest number. Few of these, however, are uncomplicated; very few of them but are found on the palmar or plantar side, where the acquired lipoma of advanced age is not found.

ADDENDA.

DEWBERRY ROOT IN THE TREATMENT OF DIARRHŒA AND DYSENTERY.

The *Trans. of the Med. and Chirurg. Faculty of Maryland*, 1883, contains an article by Dr. John S. Lynch, who speaks very highly of the astringent effect of *rubus procumbens*, or dewberry root. He says, There are doubtless many vegetable substances that contain more tannic or gallic acid than this, but none of these, not even tannic acid itself, is half so efficacious in the disorders mentioned.

Two years ago I was attending a patient who was slowly dying of phthisis, who threatened to be suddenly cut off by an intractable diarrhœa. After exhausting all the well-known astringents, and giving the largest doses of opium I dared to give, I at last thought of the old domestic remedy I had seen used when a boy with much success on my father's plantation, and which I had used in the South during the war between the States, in which one of the parties gained the dishonored pre-eminence of declaring for the first time in the history of civilization, medicines as "contraband of war."

In my search for the root I learned for the first time that a fluid extract could be found in some of our shops. A teaspoonful of the latter with 20 drops of deodorized tincture of opium was administered every second hour with the effect of arresting the diarrhœa promptly and completely. The man lived for two months afterward, and though he was several times threatened with the diarrhœa again one or two doses promptly arrested it, and he was saved the pain and exhaustion of this most disagreeable and fatal complication.

Since then I have used this fluid extract habitually in all cases of obstinate diarrhœa and dysentery, both in adults and infants, and it has never failed me in a single instance. In the summer diarrhœa of infants I regard it as perfect a specific as any found in our materia medica, and I am glad to say that I have not lost a single infant from summer complaint during the two years I have used it.

APHASIA FOLLOWING EXTERNAL INJURY OF THE HEAD WITHOUT WOUND OR CONTUSION OF THE SCALP.

Dr. H. B. Sands narrated at the *N. Y. Surg. Soc.* the case of a lady, 48 years of age, who was thrown from a sleigh, and probably struck upon her head. She was picked up in an unconscious condition. There were no signs of external injury of the head. There were marks of contusion upon the neck, and also in the lumbar region. A few hours afterwards consciousness began to return, and the patient vomited. The pupil of the right eye was a little larger than that of the left, and was sluggish.

The singular feature of the case was the existence of aphasia, not extreme, but well marked, which presented the usual characteristics of aphasia resulting from purely pathological causes. The patient's health was otherwise good, and there was no reason to suppose that any disease existed at the time of the injury. The urine was normal. The possibility of aphasia occurring simultaneously with the accident, as the result of some cause not traumatic, was taken into consideration; but it seemed probable that the lesion was due

to the injury, because the patient presented the usual signs of concussion, and the return of consciousness was accompanied by vomiting. Examination of the heart failed to discover any valvular disease.

TO PREVENT PITTING IN SMALL-POX.

In the *Pharm. Central.* we read that for this purpose M. Schwimmer recommends the external employment of ointments containing carbolic acid or thymol.

1. Carbolic acid, 5, olive oil, 40, and prepared chalk, 60 parts.

2. Carbolic acid, 5, olive oil, 40, and starch, 40 parts.

3. Thymol, 5, linseed oil, 40, and prepared chalk 60 parts.

In experiments carried out by the author on small-pox patients, treating only the face, it was found that the drying action set in from four to eight days earlier than in the parts of the body not operated on. The ointments form a protective covering, prevent the dangerous internal suppuration, and entirely prevent the formation of scars.—*Med. and Surg. Reporter, April, 1884.*

HYPOSULPHITE OF SODA AND CARBOLIC ACID IN SEVERE CONTUSIONS.

Dr. D. C. Hewson, in the *Medical News*, Feb. 23, 1884, recommends the following:

℞. Sodæ hyposulphit, $\frac{3}{4}$ iv; acid. carbolic. crys., $\frac{3}{4}$ ss; glycerinæ, $\frac{3}{4}$ jj; aquæ, Cj. M. Sig.—To be used as a lotion, and to keep a cloth on the parts well saturated all the time.

He has also used it in erysipelas and in the eruptions caused by *rhus tox* and the poison ivy, with good results.

ETHER VS. CHLOROFORM AS AN ANÆSTHETIC.

Dr. J. W. PARKINSON concludes an elaborate article on this subject in the *Pacific M. and S. Journal* as follows: (1.) That ether is as efficient an anæsthetic as chloroform. (2.) That there are fewer cases in which its use is contra-indicated. (3.) That it is a safer anæsthetic in the hands of the most experienced, and by inference corresponding in an increased ratio with those more or less unskilled. (4.) That the use of chloroform with our present knowledge and experience, in preference to ether, where no contra-indication to the latter can be shown, is adding materially to the risk of the patient and the responsibility of the administrator.—*Med. and Surg. Reporter, March 8, 1884.*

PROPOSITIONS CONCERNING LEPROSY.

The following are the ten propositions submitted as a result of the combined investigations of Drs. Fox and Graham: (1.) Leprosy is a constitutional disease, and in certain cases appears to be hereditary. (2.) It is, undoubtedly, contagious by inoculation. (3.) There is no reason for believing that it is transmitted in any other way. (4.) Under certain conditions a person may have leprosy, and run no risk of transmitting the disease to others of the same household or community. (5.) It is not so liable to be transmitted to others as in syphilis in its earlier stages. There is no relation between the two diseases. (6.) Leprosy is usually a fatal disease, its average duration being from ten to fifteen years. (7.) In rare instances, there is a tendency to recover after the disease has existed for many years. (8.) There is no valid ground for pronouncing the disease incurable. (9.) Judicious treatment usually improves the condition of the patient, and often causes a disappearance of the symptoms. (10.) There is ground for the hope that an improved method of treatment will in time effect the cure of leprosy, or, at least, that it will arrest and control the disease.—*Trans. American Dermatological Association, 1883.*

LONG INCUBATION OF VACCINATION.

In the *Druggist's Journal* (Philadelphia), is reported a case in which a vaccination with bovine virus did not produce any effects until nine months and two weeks, when a typical vesicle appeared, which then went through the regular stages, both local and general of an ordinary vaccination. The patient was a man who had never been vaccinated before, but consented to be vaccinated when his children were; but although the others, upon whom the same virus was used, passed through the usual course, his case was apparently unsuccessful until the lapse of the time already stated, when he came to the physician with a characteristic sore arm.—*Phil. Med. Times*.

 IODOFORM SUPPOSITORIES FOR PILES.

R. Iodoform, 4 parts; balsam Peru, 8 parts; cacao butter, white wax, of each 6 parts; calcined magnesia, 4 parts. Mix. To make twelve suppositories. One to be introduced after stool each time.—*Druggist's Circular*.—*Phil. Med. Times*.

 LOCAL ANÆSTHETICS.

The following formulæ may be found serviceable as local anæsthetics for small operations: R. Chloral hydrat.; gum camphor, aa 3ij; morphine sulph., 3ss; chloroform, 3j. M. This may be painted with a camel's hair brush over the area to be incised: allowed to dry and repeated as necessary to render the part insensible.

R. Etheris or chloroform, 3ij; camphor, 3j. M. Apply with a brush.

R. Acidi acetici (cryst.), part 1; chloroform, parts 20. Solve. Apply with a brush.—*Med. News*.

 SIMPLE TESTS FOR THE PURITY OF WATER.

The following is from the *Sanitarian*, for March, 1884:—In suspected drinking water for persons who cannot command chemical analysis, the following tests are recommended as being generally available and reliable:

Color.—Fill a bottle made of colorless glass with the water; look through the water at some black object; the water should appear perfectly colorless and free from suspended matter. A muddy or turbid appearance indicates the presence of soluble organic matter, or of insoluble matter in suspension. It should be "clear as crystal."

Odor.—Empty out some of the water, leaving the bottle half full; cork up the bottle and place it for a few hours in a warm place; shake up the water, remove the cork and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling, an odor is evolved sometimes that otherwise does not appear.

Taste.—Water fresh from the well is usually tasteless, even though it may contain a large amount of putrescible organic matter. Water for domestic use should be perfectly tasteless, and remain so even after it has been warmed, since warming often develops a taste in water which is tasteless when cold. If the water, at any time, has a repulsive or even disagreeable taste, it should be rejected.

Heisch's Test for Sewerage Contamination.—The test is so simple that any one can use it. Fill a clean pint bottle three-fourths full of the water to be tested, and dissolve in the water a teaspoonful of the purest sugar—loaf or granulated sugar will answer—cork the bottle and place it in a warm place for two days. If in twenty-four to forty-eight hours the water becomes cloudy or muddy, it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.

VACCINIA AND VARIOLA.

A series of papers by Dr. LEONHARD VOIGT upon the relations of variola to vaccinia are given as the result of many years' experience and observation, and the following essential points enumerated.

As the practice of animal vaccination has been conducted quite extensively in the United States during the past ten years or more, and the opinions of animal vaccinators have been freely expressed upon the same subject, a different conclusion has been drawn, especially as to the eighth and ninth propositions of the writer.

(1.) Vaccine lymph may be procured by vaccination of the cow with lymph taken from the pustules of persons sick with small-pox. But no one can be sure that every attempt will be successful.

(2.) The vaccine obtained in such a manner is suitable for the vaccination of men on account of the energy of its operation, but it should only be used after transmission from animal to animal several times, by which proceeding its effect is mitigated.

(3.) In the first year of its use vaccine lymph obtained in this way possesses a higher efficiency than an animal stock several years old.

(By this term, *a stock several years old*, we should understand lymph transmitted from animal to animal, at the time of the maturity of the vesicle, for several years. In accordance with the custom of animal vaccinators each year would represent a series of fifty-two to sixty-five animals, the period of maturity presenting slight variations.)

(4.) Vaccinia and variola originate in the same virus, and each gives to the person attacked a certain claim of immunity against suffering arising from the same source.

(5.) The duration of this immunity is in proportion to the intensity of the attack.

(6.) Among people who have had the small-pox twelve years before, we find almost the same susceptibility to vaccination as among those who were vaccinated at the same time. Consequently children twelve years of age, and vaccinated during the first year, are liable again to take small-pox.

(7.) Therefore, the imperial vaccination law which orders the vaccination of infants and their re-vaccination at twelve years of age fulfills an actual necessity.

(8.) Animal lymph transmitted from calf to calf, and originally very active, loses its power earlier than humanized vaccine transmitted from arm to arm. Humanized lymph gives the best results in men and animals in the long run; therefore the animal vaccine of old stock promises inferior results to retro-vaccination of the first remove.

(9.) Lymph carefully propagated, and originated from the cow-pox but a short time before, is the most efficient, not only in its animal but especially in its humanized form. Therefore resort should frequently be made to the original cow-pox in order to obtain lymph as protective as possible.—*Boston Med. and Surg. Journal*.

INFANTILE MENSTRUATION.

The *Amer. Practitioner* publishes the following from the *Amer. Jour. of Obs.*:—Dr. Vanderveer, of Albany, N. Y., reports the case of a child who began to have a regular flow when she was only four months old. At the date of the report the child is two years and seven months old and has regularly menstruated every twenty-eight days since its first appearance. She now (Sept. 1882) weighs forty-nine pounds. Features and form that of a girl ten or twelve years old. Her mammary glands are as large as a small orange. The mons veneris is well developed and covered with full growth of hair. The external labia large, and all parts of the vulva fully formed. She is bright and intelligent, but easily irritated, especially at the beginning of the menstrual epoch. Her appetite and tastes belong to a child much older.

December, 1882, and January and February, 1883, she did not menstruate, and her action was very much more fretful, and inclined to be wakeful at night. March 18th it came on again as of old and has been normal since, she appearing better in her disposition.

BORAX AND GLYCERINE IN ERYSIPELAS.

In the *Medical Times* (Philadelphia) will be found an article on the treatment of erysipelas, in which the writer recommends the local application of borax dissolved in glycerine in the strength of one dram to the ounce, and applied on linen. The writer speaks from an experience of eight years, and claims that it cuts short the disease in a remarkable manner.—*Canada Lancet*.—*Am. Practitioner*.

PELLETIERINE; A NEW TÆNIFUGE.

Dr. JOHN L. DICKEY, of Wheeling, W. Va., in the *Med. News*, March 29, 1884, recommends pelletierine as a remedy to be used against tænia. It is an alkaloid derived from the root-bark and stem-bark of granatum; was discovered by Tauret in 1878, and named in honor of Pelletier, another eminent French chemist. The powder is grayish-yellow in color. The dose is given by one authority as two and a half grains, by another, fifteen. The preparation most largely used is in a proprietary form by Tauret, called "Tauret's Pelletierine." It is of the color and consistence of maple syrup, and has a sweet and pleasant, but slightly astringent taste. Each bottle contains an ounce, which is the adult dose. An objection to it is the price, three dollars a bottle. It is administered on an empty stomach, and followed by an active cathartic half an hour afterward. The advantages of this preparation of pelletierine over other tænifuges are its quick action, and pleasant taste and easy administration.

I had seen it used successfully by Prof. DeCosta at the Jeff. Coll. Hosp. clinic, in a case that had resisted all well-known remedies, and therefore resorted to it in the case of a boy 10 years of age, who had had tape-worm for three or four years. The cathartic was aided by an injection of soap-suds, and the worm was removed completely. Microscopical examination revealed the four suckers and central fringe of hooklets of the tænic solium.

THE LOCALIZATION OF PERINEPHRIC LESIONS BY MEANS OF CLINICO-ANATOMICAL STUDY.

Dr. JOHN B. ROBERTS, in a paper, an abstract of which was published in the *Louisville Med. News*, May 31, 1884, says: Although there are no dividing lines separating the perinephric area into tracts, it is convenient to speak of the upper, middle, and lower anterior, and upper, middle, and lower posterior tracts. The speaker then discussed the varying symptoms likely to be produced by lesions in these different tracts; and from the clinical histories of cases reported by himself and others and from anatomical study deduced the following conclusions:

A table of symptoms of probable and possible value in localizing perinephritis and perinephric lesions: (1.) *All anterior regions*: Pain, tenderness, swelling, edema, pointing, etc., in front and side of abdomen. (2.) *All posterior regions*: Pain, tenderness, swelling, edema pointing, etc., in the loin. (3.) *Upper tracts*: Pleuritic friction, pleural effusion, empyema, expectoration of pus, dyspnea, suprarenal involvement, solar plexus involvement. If on the right side, bilateral edema of legs, jaundice, fatty stools, persistent vomiting, rapid emaciation, ascites. (4.) *Middle tracts*: Albuminuria and casts, suprapubic, scrotal or vulvar pain or anesthesia, suppression of urine, uremia, pus in the urine, edema of scrotum or varicocele (especially on the left side). (5.) *Lower tracts*: Flexion of hip, pain or anesthesia of front, inside or outside of thigh, retraction of testicle, pain at knee, scrotal or vul-

var pain or anesthesia, without accompanying albuminuria, unilateral edema of legs, abscess or sinus near Poupart's ligament, constipation (if left side), involvement of chyle receptacle (if right side).

THE TREATMENT OF SCALP WOUNDS.

Dr. J. McF. GASTON, of Atlanta, Ga., in the *Atlanta Med. and Surg. Jour.*, May, 1884, says he does not claim that in every instance of wounds of the scalp unfavorable results do ensue from immediate closure of the incision, but insists that it is the safest and best treatment to dispense with adhesive plaster, stitches, and interlacing of the hair, or any other means of traction to approximate the edges of scalp wounds; and to apply simply a dressing of wet lint with the moderate support of a bandage at the outset, and a mild salve, after a few days have elapsed, if there is suppuration. The firm consistence of the scalp keeps the margins in apposition, and with the internal bony support and the external compress of lint, the lightly applied bandage keeps the subjacent parts drained effectually, so that the adhesive inflammation proceeds under the most advantageous conditions for uniting and healing the tissues. It might be supposed that a broader cicatrix results in cases treated thus than in others, but he has not found it so, and with a profound conviction that the initiation, progress and termination of this simple mode of treating scalp wounds is the most satisfactory, it is heartily and confidently recommended to the adoption of the profession.

INFANT FOODS.

Dr. ALBERT R. LEEDS thus concludes an article in *Med. and Surg. Reporter*: (1.) Cow's is in no sense a substitute for woman's milk. (2.) Attenuation with water alone is inadequate, and chemical metamorphosis, or, mechanically, the addition of some inert attenuant is required, in order to permit of the ready digestibility of cow's milk by infants. (3.) The utility of manufactured infant's foods is to act as such attenuants, and as such they take the place of the simple barley and oatmeal water, the sugar, cream, baked cracker, arrowroot, etc., etc., used in former times. (4.) The results of both chemical and physiological analysis are opposed to any but a sparing use of the preparations containing large percentages of starch. (5.) It is eminently probable that besides acting as attenuants, the matters extracted in the preparation of barley and oatmeal water, and still more the soluble albuminoid extractives obtained at ordinary temperature (whereby coagulation is prevented), by Liebig's process, have a great value of their own. For this reason, instead of employing starch, gum, gelatine, sugar, etc., the use of natural cereal extractive, containing saccharine and gummy matters and soluble albuminoids as well, such as our great and inspired teacher Liebig himself advocated, is in accordance with the developments of science since his time. (6.) The use of a food made up of equal parts of milk, cream, lime-water, and weak arrowroot water, as practiced for years by the late Dr. J. Forsyth Meigs, and recently advocated by his son, Dr. Arthur V. Meigs, is sustained by theory, analysis and practice. It provides for the increase of fat to an amount comparable to that contained in human milk. It adds alkali to permanent reaction, and to convert caseine into soluble albuminates, it adds a little bland attenuant. And if, in addition, the amount of milk-sugar were raised, and instead of arrowroot water, barley or oatmeal water were substituted, as the case demanded, it would approach, it appears to me, still more nearly to the conditions required. (7.) The perfect solution of the present problem is to be found in the modification of cow's milk by chemical processes, so as to make it physiologically equivalent to human milk. The nature of these processes, and the results to be obtained, are at present so nearly wrought out, that there is good ground for believing that such a solution of this problem is not far distant in the future.—*Canada Med. and Surg. Jour.*, Feb., 1884.

QUARTERLY EPITOME

OF

AMERICAN PRACTICAL MEDICINE AND SURGERY.

WESLEY M. CARPENTER, M.D., Editor.

The last contribution made to medical literature by the late Prof. Samuel D. Gross was a paper on "Lacerations of the Female Sexual Organs, consequent upon Parturition, their Causes and their Prevention," read before the Section on Obstetrics and Diseases of Women, American Medical Association, May 8, 1884, and by his own arrangement published in full in the *Medical News*, May 24, 1884.

The distinguished author directs attention to the lacerations which affect (1) the perineum; (2) the vesico-vaginal septum; (3) the recto-vaginal septum; (4) the neck of the womb; (5) the urethra, or mouth of the urethra and of the vagina. Each of these injuries is spoken of with reference to the frequency of its occurrence and the gravity of its character.

Concerning the *exciting causes* of these accidents the author says that the great factor in laceration of the perineum is parturition, either alone or in conjunction with the means employed to effect it, and that it occurs especially in the absence of proper support.

The most common factor unquestionably, of lacerations of the vagina and the uterus, is either prolonged or very severe pressure, the active agent being, generally, the child's head.

The principal causes of lacerations of the cervix, are precipitate and instrumental labor, and breech cases. The presence of cicatricial tissue in the cervix, malpresentations, and section of the cervix, occasionally practised by ignorant obstetricians, complete the list of all the causes, active and predisposing.

The chief object of the paper was to inquire into the best means of preventing these accidents. "There is more honor in one ounce of preventive midwifery than in one pound of curative gynecology, the outgrowth of ignorant or meddlesome obstetric practice." To relax a rigid perineum when the resistance is very great, general blood-letting is strongly recommended, as the measure which will most readily overcome the obstacle by relaxing the perineal muscles.

To prevent laceration of the vesico-vaginal or recto-vaginal septum, an empty rectum and bladder and the timely, judicious, conservative use of the forceps, to prevent undue and prolonged pressure upon the soft parts, are all important. "The forceps as generally used, however, have done more harm than good."

As to the preventive treatment of laceration of the cervix, occurring most frequently, by far, in primiparæ. How is the duration of labor to be abridged, this injury to be avoided, and the woman placed on the same level with the multiparæ? The great remedy with which to accomplish this is venesection, "carried to a reasonable but sufficient extent to relax the system, and through the system the genital organs." "As to the quantity of blood to be abstracted, every case must be met on its own merits." "No rational accoucheur would bleed an anæmic woman, or a woman laboring under cardiac disease, or any wasting malady whatever."

In conclusion the distinguished author says: "Out of the injuries now considered, often unavoidable, but, in

the great majority of cases, the effects of gross ignorance, timidity, indecision, or of the maladroit use of the forceps and of other instruments, has grown gynecology, a twin sister of surgery, the scientific foundation of which was laid, hardly thirty years ago, by the immortal Sims, aided by Bozeman, Thomas, and Emmet, of America, by Baker Brown, of London, and by Gustav Simon, of Heidelberg, all pioneer laborers in this great field of the healing art."

The only definite relation between cardiac murmurs and diseases of the heart, is that of determining exactly where the lesion exists. It was once believed—and the idea has not been corrected entirely—that a cardiac murmur indicated the existence of a grave lesion, and that the person having such a murmur was in constant danger of sudden death. Clinical studies and pathological observations, however, have determined that no definite ratio exists between cardiac murmurs and the gravity of diseases of the heart. A very loud murmur may accompany a very slight amount of disease at a valvular orifice, and the reverse condition may also exist. Again, extensive organic disease of the heart may exist unaccompanied by any cardiac murmur, and on the contrary a distinct cardiac murmur may exist without organic disease of the heart.

Cardiac murmurs, therefore, afford a means by which the valvular orifice or valve affected can be definitely ascertained, and in what way, but they do not indicate the amount of damage which either a valve, or the walls of the opening, has sustained.

The careful observer, therefore, does not place very great reliance on the presence or absence of murmurs, but upon other symptoms, for upon these alone it is possible to form a correct prognosis, and often a correct diagnosis.

Doubtless, the fact that cardiac murmurs, due to organic disease, are as a rule, permanent, has contributed largely to the importance which has generally been ascribed to them. It is well established, however, that cardiac murmurs may disappear, the lesion still remaining.

Mr. Broadbent, of London, has expressed the opinion recently, that it is possible to predict, with more or less of certainty, the course of disease of the heart, and approximately the duration of the patient's life. He goes over the subject thoroughly and makes the following statements, based upon extensive research and observation:

1. With the exception of aortic insufficiency, we are justified in assuring our patients and their friends, that there is practically no danger of sudden death.

2. The relative frequency of aortic insufficiency is second in the list, mitral regurgitation standing at the head; and the order of relative danger is, mitral stenosis, aortic regurgitation, aortic stenosis. Aortic regurgitation, however, when it comes on late in life, at a period when it is progressive in character and where compensatory hypertrophy is established with difficulty, is the most fatal of all valvular affections.

All writers attach very great importance to the prognostic value of hypertrophy and dilatation, and it is usually true, although not always, that these structural changes have a definite ratio to the amount of valvular damage; the less the one the smaller the other.

Again it is universally accepted that hypertrophy and dilatation increase the seriousness of valvular disease; that the relation between valvular disease and these structural alterations is one of cause and effect; and that they are conservative.

In estimating the gravity of cardiac disease it is necessary, in the first place, to determine exactly where the lesion is situated, and, in the second place, the amount of hypertrophy and dilatation by which it is accompanied. The first is accomplished by the aid of cardiac murmurs, ascertained by auscultation; the second by inspection, palpation, and percussion.

But there are important accessory conditions which must not be disregarded when considering the question of prognosis. When valvular disease develops in early childhood it is more serious than when it occurs a few years later, and, when it appears early, girls are more liable than boys to break down at the period of puberty; also the compensatory changes are less developed in the former than in the latter. Anæmia produces a serious detrimental effect upon a heart affected with valvular disease, impeding and slackening the flow of blood, and preventing the changes from taking place by means of which the blood is constantly renewed, besides adding to the distress of the patient from the palpitation by which it is accompanied.

Again the circumstances of the patient and the mode of his life are important; poor food, exposure, breathing impure air, indulgence in drink, etc., increasing the peril. High arterial tension is necessarily injurious, and aggravates the disease already existing by rendering necessary a more powerful contraction of the ventricle to force the blood onward.

In a case, therefore, of valvular murmur, discovered in a person in apparent health, with no modification of the pulse and no evidence of hypertrophy or dilatation of the heart, the change in the valves is slight and there is no immediate danger. The subsequent history of the case will be influenced by the age and condition of the lesion; if old and non-pro-

gressive, the patient may live to old age; if recent and progressive, he may have only two or three years to live. When hypertrophy and dilatation are present, one or both, and a corresponding modification of the pulse, the heart, although no symptoms may have been developed, is liable to break down under strain of any kind, physical or emotional, and, if the lesion is progressive, symptoms will soon be present. When embarrassment of either the general or the pulmonary circulation has been established, danger is never far off, although it may be guarded against for years.

Generally speaking, there is far less probability of prolonged life in aortic than in mitral disease. The hope lies in the absence of any tendency to aggravation of the valvular lesion, together with soundness of structures generally, and a good family history.

In a recent legal case in this city an eminent surgeon is credited with saying, that the more physicians study Bright's disease the less they know of the affection.

This statement betrays the existence of an unsuspected amount of ignorance, and is startling at this day when the pathological and clinical study of the diseases of the kidney belonging in this class are so far advanced.

It is true that, there are mooted points concerning primary pathological changes, etiology, and symptomatology, but the same can be said truthfully of all other diseases. The war has never been waged so fiercely upon this field as upon the field of pulmonary diseases, and yet the profession would be very slow to admit that little or nothing has been ascertained concerning phthisis pulmonalis.

Concerning Bright's disease, or diseases, of the kidney, clinicians are to-day able to diagnosticate positively. The data upon which a positive diag-

nosis can be based have been so thoroughly established that, when observed, the physician need not hesitate.

Still further, clinicians are able to say, with a reasonable degree of certainty, what particular form of kidney lesion exists and gives rise to the symptoms. These are facts which are so well-known, and have been so frequently attested at the autopsy table, that it is unnecessary to enter into their detail.

Pathologist, also, are familiar with the changes which constitute the morbid anatomy of Bright's disease, not only those pertaining to body generally, but those which manifest themselves in the kidneys and make up the essential lesions. They are able to demonstrate these changes so that those who wish to learn what they are can do so with as great facility as they can study the morbid anatomy of any other organ.

The profession, we believe, is not prepared to accept the sweeping statement that all the study which has been given to this important disease has been for naught, and that its members, all of them at least, are still entangled in the meshes of a thread of mystery which will never be unraveled.

The question of priority occasionally comes to the surface, and this time it is with reference to two important operations—namely: amputation at the hip-joint and reposition of a chronic uterine inversion.

Dr. J. A. Wessinger of Parshallville, Mich., in a paper published in the *Medical Age*, May 25, 1884, controverts the claim made by a biographer that the first in the United States to successfully perform amputation at the hip-joint was the late Dr. Isaac Wixon, who operated in 1845. He says that "the first amputation of the hip through living parts, appears to have

been performed by Mr. Henry Thompson, Surgeon to the London Hospital, sometime before 1777." This operation provoked Mr. Percival Pott's denunciation of the procedure.

The first case in the United States of amputation at the hip-joint occurred in 1814, and the operation was performed by Dr. Badley. The amputation was primary, and the patient died on the following day. The case was reported by Dr. Smith in the *New York Medical Journal*, Sept., 1852. The first successful case in the United States was one in which Dr. Valentine Mott operated in 1824. (*Phila. Jour. Med. and Phys. Sci.*, Vol. V.)

In an editorial in the *Medical News*, May 31, 1884, the question of priority in the reduction of chronic uterine inversion is considered, and the claim is made that the honor belongs to Dr. Tyler Smith, rather than to Dr. James P. White. Dr. Smith's case was one of twelve years standing, and the uterus was repositioned in 1856, although the report was not published until April, 1858. Dr. White's first case was in March, 1858, the inversion having lasted six months, and the report of the operation appeared in the *Amer. Jour. Med. Sci.*, July, 1858.

In the same editorial article it is also stated that the operation was performed first in 1847, by Vitry, a French physician; "Canney, in January, and Barrier of Lyons, in March, 1852, each of chronic inversion.

BOOK NOTICES.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. Clouston, M. D., Edin., F.R.C.P.E., Physician Superintendent to the Royal Edinburgh Asylum for the Insane, etc., etc.; to which is added an Abstract of the Statutes of the United States and of the several States and Territories relating to the custody of the Insane. By Charles F. Folsom, M.D., Asst. Prof. of Mental Diseases, Harvard Med. School, etc. Phila-

delphia: Henry C. Lea's Son & Co. 1884.

The volume contains 543 pages of clinical lectures on insanity with the additions indicated in the title. The author is a practical alienist, and the present work is based upon clinical observations. He advances the view that teaching, to be interesting to every member of a large class, must be clinical, and that a certain proportion will not be reached by systematic descriptions. To interest the student, therefore, has been the author's aim, and in endeavoring to accomplish this end, he has taken the risk,—one frequently but not successfully taken—of adopting a brilliant rhetorical style which interests more than it teaches. Credit has been to Virchow for the saying that, "When a pathological specimen is passed to a class of ten medical students only one sees it," and it may be added, with a very great degree of probability of being true, that the single one is the only member of the class who will become a pathologist. To resort to the method of teaching the principles of one of the most important departments in medicine by means of a series of pleasing clinical pictures is too superficial to entitle the procedure to serious consideration.

"All classes of men," says the author in his first lecture, "have generalized ideas of mind," "learned in the school of experience and tradition—not formulated, it may be, but still definite and practical." This is a condition to be avoided, especially by those who have to deal with cases of mental aberration, and the fact that the knowledge possessed by "all classes of men" is "not formulated," but is "generalized," is evidence that it is not definite and is not of the highest practical value.

Barring, however, an occasional pyrotechnic in rhetoric, and a few lax

statements, such, for example, as that, "doctors always poison themselves when they wish to commit suicide, just as soldiers always shoot themselves," the author has given the profession quite an acceptable book from his standpoint; that is, the clinical.

At the same time, the reviewer believes that placing certain cases under the head of "Anæmic Insanity," "Diabetic Insanity," "Insanity of Cyanosis," "Metastatic Insanity," etc., gives an unwarranted dignity to disorders which those with "generalized ideas of mind" have heretofore "definitely and practically" been unwilling to class with so serious a malady as insanity.

The additions made by Dr. Folsom increase the intrinsic value of the book. The colored plates are not especially advantageous; some of them are really "too poor to do him reverence." The book is well published.

POST-NASAL CATARRH AND DISEASES OF THE NOSE, CAUSING DEAFNESS. By Edward Woakes, M.D., Senior Aural Surgeon, and Lecturer on Diseases of the Ear, London Hospital, etc. Illustrated with wood engravings. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1884.

This volume contains 220 pp., and has for its subject the catarrhal lesions of the naso-pharynx, of which ear disease and deafness are secondary and later affections. The aim of the author is to supplement information not usually provided in text-books on the ear, and to this end he introduces his work with observations on the correlating and reflex functions of the sympathetic nervous system, in which delicate physiological phenomena pertaining to dilatation and contraction of blood-vessels are traced out, and said to be due to shock ultimately causing sudden tension of the intralabyrinthine fluid, similar to that

caused by the direct pressure of a probe upon the exposed stapes. Evidently the author has an idea, which he wishes to elaborate regardless of the degree of attenuation it originally possessed or may finally reach. Chapters II and III contain the author's views on the *Ætiology* of Catarrh, Acute and Chronic, which he studies with precision; "the pre-catarrhal state," and he then follows with a description of "the mechanism of taking cold," which Dr. Bosworth, of New York, has found difficulty to explain. The remaining chapters are devoted to diseases occurring in the nasopharynx, and, aside from etiology, where the sympathetic system exerts a very prominent influence, contain nothing essentially new, although what has been given is very well written. The book is printed well.

DISEASES OF THE RECTUM AND ANUS.

By Charles B. Kelsey, M. D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum, etc. With chromo-lithographs and illustrations. New York: William Wood & Company, 56 & 58 Lafayette Place. 1884.

The basis of this volume is the book written by the same author and published in Wood's Library. The present volume contains additional matter, and is a good work for reference and guidance in the diagnosis and treatment of diseases belonging to this specialty. It contains fifteen chapters and 88 illustrations calculated to make the well-written text easily understood by the general practitioner. A commendable conservatism prevades the treatment, and we do not see how harm can be done if the directions and precautions given by the author are carefully observed.

The first three chapters contain practical points in anatomy and physiology, a description of congenital malformations of the rectum and anus, and the general rules regarding exam-

ination, diagnosis, and operation. These are followed by chapters on inflammation of the rectum; abscess and fistula; hemorrhoids; prolapse; rectal hernia; non-malignant growths of the rectum and anus; non-malignant ulcerations; non-malignant stricture of the rectum; cancer; impacted feces and foreign bodies; pruritus ani; spasm of the sphincter, neuralgia, wounds, hemorrhage, and rectal alimentation.

The type is large, the printing is excellent, and the binding is ornamental. The book will make a valuable addition to the library of every general practitioner.

SHAKESPEARE AS A PHYSICIAN. By J. Portman Chesney, M. D., Ex-Secretary Medical Society of the State of Missouri, etc., etc. J. H. Chambers & Co., Publishers, Chicago, Ill., St. Louis, Mo., and Atlanta, Ga. 1884.

This volume, the author says, contains every word which in any way relates to medicine, surgery or obstetrics, found in the complete works of Shakespeare, with criticisms and comparison of the same with the medical thoughts of to-day. Of the intrinsic merit of this work those only are best qualified to give an opinion who have made the writings of the great poets a special study. The labor incident to preparing such a book was necessarily very great, and the result seems to be such as will be acceptable to those whose tastes turn in the same direction with the author's.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. Edited by Adolf Alt, M. D., in conjunction with collaborators.

A new journal in this special department, published in St. Louis, Mo., Chicago, Ill., and Atlanta, Ga., has an excellent corps of collaborators, and, if the standard of the first number is maintained, the publication will be a success from a scientific standpoint.

QUARTERLY EPITOME
OF AMERICAN
PRACTICAL MEDICINE AND SURGERY;
Supplementary
TO
BRAITHWAITE'S RETROSPECT;

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN
THE MEDICAL SCIENCES, ABSTRACTED FROM THE CURRENT MEDICAL JOURNALS
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PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

MILK TREATMENT OF DISEASE.

By JAMES TYSON, M.D., Prof. General Path., Univ. Penn., Philadelphia, Pa.

From the *Jour. Amer. Med. Ass'n*, June 7, 1884:—After the introduction, Dr. Tyson quotes from a paper on the "Milk Cure," read a little more than eighteen years ago before the Medical Society of St. Petersburg by Dr. Phillip Karell, and then says:—

My own experience with the milk treatment includes the following classes of cases: diabetes, calculous disease, Bright's disease, dyspepsia, obesity, and certain instances of the so-called nervous prostration in women, in which its use formed a part of the treatment by rest, seclusion, massage, and electricity.

First, as to *diabetes mellitus*, it is now generally conceded that no measures are so efficient in removing the sugar from the urine, and relieving other symptoms, as the dietetic, and of the dietetic treatment none has been so promptly efficient in my hands as an exclusive milk diet. As to the degree in which relief is afforded, it must be admitted that a cure cannot always be guaranteed. A certain number of cases are completely relieved, and the symptoms do not return, after a cautious addition to the milk diet, and gradual substitution by nitrogenous, and, still later, even by starchy and saccharine foods. Other cases, again, show no sugar in the urine as long as the milk diet is continued. In a third class of cases, sugar is much diminished, but does not disappear. In a last, and smallest number of cases, the milk diet is really badly borne, and it is impossible to carry it out.

My method of exhibiting milk in diabetes, and indeed in all the conditions, to which I will refer as adapted to it, is to begin with half a tumbler-full, or four ounces of skimmed milk every two hours, for the first day. This is, of course, insufficient for an adult person, and even the second day I increase to six ounces every two hours, and after a day or two more to eight ounces, in which way sixty-four ounces, or two quarts are reached in the period named. This amount is quite sufficient for many persons of both sexes with small frames and light weight, but is quite insufficient for others, for whom the quantity may be increased by taking more at one time, or beginning a little earlier in the day and continuing later; or a glass or two may be taken during the night. Or, the interval may be increased to three hours, when still larger quantities must be taken at a time, until an amount sufficient to appease hunger or to maintain a good weight is reached.

It is impossible to lay down a rule as to the quantity required in the twenty-four hours, but it may be roughly put at from five to ten pints for persons of medium stature, the larger quantity being necessary for those who are exercising, and the smaller for persons at rest.

The milk should be taken slowly, and not gulped in large amounts at a time. Not less than five minutes should be occupied in the drinking of a single glass of eight ounces. Nor should it be taken very cold. In summer the temperature should be about 60° F., or a little below that of the surrounding atmosphere, and in winter it may be raised to the same temperature,

or even slightly warmed, but it should not be boiled, unless diarrhoea is present.

Such a diet is of course quite compatible with health and strength for an indefinite time. And while I hardly advise that no attention be paid to the complaints of those who say that milk does not agree with them, I always insist on being allowed to settle that question myself by actual trial: and it is well known that where unskimmed milk is not well borne, producing, as it sometimes does, discomfort from flatulence or other causes, the skim-milk may be taken without causing any such sensations. Should the latter still disagree, which is very rarely the case, the liberal addition of lime water in the beginning, say but an amount equal to one-fourth, or even one-half the milk used, will often correct the difficulty; and later the milk can be gradually resumed in full strength. Occasionally, too, persons will complain of feeling weak upon a milk diet. This complaint, which is also often unfounded, may be met by increasing the amount prescribed.

A complaint of greater importance is the constipating tendency of a milk regimen, particularly at first. But this may be corrected by the daily use, if necessary, of one of the saline aperients, of which sulphate of magnesium is one of the best, or one of the aperient mineral waters, as Hunjadi Janos, or Friedrichshalle, or some one of the Saratoga aperient waters; or if these are insufficient, a pill of compound extract of colocynth, podophyllin and extract of hyocyamus may be used; or a cup of black coffee in the morning may be sufficient. In many cases this symptom disappears after a time, and the whitish, almost odorless evacuations continue daily.

In diabetes mellitus, more than in any other conditions to which the milk treatment is applicable, it should be exclusive, at least at first. My plan is to continue the milk until sugar has been absent for from four to six weeks, after which I gradually add other foods, beginning with unskimmed milk, meats, oysters, fish, tomatoes, the green vegetables, gluten, bread, fruits. The urine is tested after each addition of food, and if glycosuria is found, the article of food responsible for it is omitted for a time longer.

It may reasonably be asked, why is skim-milk superior to unskimmed? I believe any superiority consists in the fact that milk deprived of its cream is simply more easily assimilable than unskimmed milk, and therefore less likely to disturb digestion. There are probably none here who have not heard the complaint from certain patients that a milk diet makes them bilious, by which is merely meant that it causes indigestion.

A second class of cases, in which the skim-milk has been of signal usefulness in my experience, are cases of *uric acid gravel*. I have yet to see an instance of persistent uric acid sediment, in which the exclusive use of milk was not followed, sooner or later, by a total disappearance of the deposit, while I have known its persistent use to be followed by the easy discharge of uric acid calculi of considerable size, *per urethram*.

There seems to be no reason why the milk should be skimmed for this use, rather than unskimmed, while the latter has the advantage that a smaller amount is needed to satisfy hunger and keep up the weight of the body. As to the propriety of an exclusive milk diet in these cases of uric acid gravel, it may be determined by experience. While it may not be necessary in every case, in some it is absolutely so.

While an exclusive milk diet is so efficient in cases of pure uric acid gravel, it is not to be especially recommended in *phosphatic calculus*. Indeed, it is rather contra-indicated. For the effect of a milk diet is to alkalise the urine, and therefore to tend to maintain a phosphatic sediment.

While nothing can be hoped for in respect to solvent action, or tendency to solvent action upon *oxalate of lime* sediments, by urine derived from a milk diet, yet, as it is commonly supposed that the same conditions of system which tend to produce uric acid are those which produce oxalate of lime, it may be expected that milk treatment will also be useful in the oxalate of lime tendency.

The third set of diseases in which I have found the milk treatment especially useful, are certain forms of *Bright's disease*. In these, more discrimination has to be exercised than in any of the foregoing. In general, it may be said

that it is in the contracted kidney of interstitial nephritis that milk is most useful, the headache, nausea, vertigo, and "fulness" in the head, and the palpitations which are so often very annoying symptoms, are frequently relieved by it. Here, too, the *skimmed* milk is especially indicated, because anything which increases the labor of digestion aggravates the symptoms above mentioned as characteristic. On the other hand, it is not so necessary that the diet should be exclusively milk, and a sufficient quantity of bread and vegetables may be permitted to break up the monotony, while meat, eggs, and all foods rich in albumen should as a rule, be prohibited. In this disease, especially, the constipation incident to a milk diet should be guarded against.

That a milk diet should be useful in certain cases of *gastro-intestinal disease*, is generally recognized. There are two classes of cases for which it is adapted. The first is that represented by the ordinary dyspeptic, whose symptoms are sometimes dispelled as by magic by a pure skim-milk diet, systematically carried out, and modified by the free addition of lime water. In a few instances of ordinary dyspepsia I have found the use of milk to produce flatulence, and to be altogether illy borne, but this tendency is corrected by peptonising the milk.

But it is more particularly in the treatment of organic diseases of the gastro-intestinal tract that the bland and unirritating qualities of milk diet are indicated. In *gastric ulcer* the use of no other food than peptonised milk should be permitted. In *chronic enteric disease* of both small and large intestines, and particularly of the latter, it is very doubtful whether it is in our power, by therapeutic means, to directly affect the diseased parts. Our treatment must therefore consist in such measures as will favor Nature's inherent tendencies to restore lost tissue. This can only be done by placing the patient on a diet which is nonirritating, leaves little waste, and at the same time takes the smallest demand upon the digestive function. To accomplish this, it is necessary to obtain his consent to the use of a diet of peptonised milk for an indefinite period. For no promises can be made as to the date at which other food dare be permitted. The uninterrupted presence of natural stools, and the continued absence of pain, are the only reliable criteria. To be able to carry out such a treatment satisfactorily, it is absolutely essential to secure the confidence of the patient.

I will allude to but one more use of the milk treatment, that for the removal of excessive *obesity*, and for this a skimmed milk is necessary. No treatment which has ever been suggested, is half so efficient. In these cases a pint of milk may be taken every four hours, or fifty-six ounces in the day, with directions to take more if hunger is not appeased. It is scarcely likely that even with this freedom too much can be taken to prevent the desired reduction in weight.

DIETETIC DELUSIONS; THEIR DELETERIOUS EFFECTS, AND THEIR RECTIFICATION.

By R. M. HODGES, M. D., of Boston.

From the *Boston Med. and Surg. Jour.*, July 10, 1884:—The amount of food required by a healthy adult will surprise most persons, even those who are good feeders. While this varies with the work performed, the heat or cold of the weather, and the condition and quality of the food taken, it has been estimated that, in the case of a man in health and of average size, the total daily ration should weigh six pounds thirteen ounces 128 grains, of which one pound four ounces 245 grains consist of dry food substance, the remaining five and a half pounds being water.

The body requires not only to be fed but filled; and the object of eating is as often to bring up past arrears as to supply present demands. Quality of food, with all the heat and force it may contain, will not make up for quantity, which is required for constructive and reparative purposes. The constant waste of flesh and blood can only be compensated for by an equivalent assimilation of actual materials. Yet, in spite of this self-evident proposition, a large proportion of the better educated classes of the com-

munity readily deceive themselves and mislead others in regard to the amount of food necessary for their welfare and nutrition.

From a practice, often beginning in infancy with the common maternal prejudice against giving solid food at a sufficiently early period and in adequate amount, persisted in through childhood from an erroneous idea that "meat once a day" is an ample supply of animal food, still continue during adolescence, especially in the case of girls, under the conceit that eating heartily, or "between meals," is neither wholesome nor lady-like, a habit of going without enough sustenance is finally established in adult life which is further perpetuated and confirmed by a great variety of influences.

The consequences of an insufficient dietary are most frequently exemplified in young people, of both sexes, growing school children, boys fitting for college, *débutantes* in society, young mothers of families, seamstresses, shop girls, etc.; and although they also appear at other periods of life, and under other circumstances than those which have been enumerated, it is during the years of adolescence that the utilization of feeding has its supreme value and its prophylactic and curative effects, as a therapeutic method, are most easily obtained. Sir Andrew Clark, Mr. Grailly Hewett, Mr. Clifford Allbutt, and others who have described the ailments which follow inadequate alimentation, have especially urged the necessity for greater attention to the question of diet in the bringing up of families.

The theoretical standard of a full ration has been given. The conventional standard, however, is an unsettled one. The statement that a person eats as much as other members of his or her family may mean a great deal or nothing, for there are large and small eaters both by habit as well as by example, and there can be no criterion of the amount proper to be eaten under given circumstances except that which is determined by a physician's judgment. This amount, as has been said, should not only be specified exactly, but its consumption insured, and nothing but precise and positive evidence accepted in regard to the fulfillment of the specifications given. To secure a constant and sufficient conversion of food material by those who are or have been insufficiently fed vigilant supervision is often requisite. Enfeebled subjects, especially women, often feel a great satisfaction in being controlled, and in being led, lifted, pushed by a strong will. With such individuals resolute oversight tells. That which they say, in regard to eating, they "cannot do" they are made to do. When they think they "do their best" they are compelled to do more and better, and an assertion that they will "try" to eat is counter-balanced by a determination that they shall succeed.

As a stomach may become over-distended and permanently dilated by long gluttony or by the accumulated ingesta which a slow and feeble peristalsis refuses to move on, so may it also become contracted from the habitual want of sufficient victualing, sometimes to such a degree that the introduction of enough food can only be accomplished after the gradual dilatation of its receptacle. This may be effected by increasing the frequency of meals. The custom, common in this country, of leaving a long interval between them is the reverse of that desirable for those who require extra feeding. The ordinary European arrangement adopts a system which is worthy of imitation, a "little and often" being the motto of the eater. It is useless to attempt too much at one time. The stomach conforms slowly, and rebels at certain limit, but a brief respite and a short intermission puts it in a less antagonistic attitude.

It is a common impression that to take food immediately before going to bed and to sleep is unwise. Such a suggestion is answered by a reminder that the instinct of animals prompts them to sleep as soon as they have eaten; and in summer an after-dinner nap, especially when that meal is taken at midday, is a luxury indulged in by many. Neither darkness nor season of the year alters the conditions. If the ordinary hour of the evening meal is six or seven o'clock, and of the first morning meal seven or eight o'clock, an interval of twelve hours, or more, elapses without food, and for persons *whose nutrition is at fault* this is altogether too long a period for fasting. That such an interval without food is permitted explains many a restless night, and much of the head and backache, and the languid, half-rested con-

dition on rising, which is accompanied by no appetite for breakfast. This meal itself often dissipates these sensations. It is, therefore, desirable, if not essential, when nutriment is to be crowded, that the last thing before going to bed should be the taking of food. Sleeplessness is often caused by starvation, and a tumbler of milk, if drank in the middle of the night, will often put people to sleep when hypnotics would fail of their purpose. Food before rising is an equally important expedient. It supplies strength for bathing and dressing, laborious and wearisome tasks for the underfed, and is a better morning "pick-me-up" than any hackneyed "tonic," easily obtained anywhere, readily "kept in the house," and which does not demand preparation or delay. Few persons can command the services of a "professed cook," or of a good "plain" cook, or have either at their disposal every two hours in the day. The practical articles of diet which meet these restricted requirements of convenience are few, and of these the chief in importance are eggs, milk, cream, butter, and bread.

"Raw albumen is one of the most digestible of foods; coagulated, it is comparatively indigestible." Eggs to be easily digested must be eaten uncooked, since albumen under prolonged heat acquires progressive degrees of toughness. Eggs should not be cooked by boiling but by placing them in hot water, and allowing them to remain there from seven to ten minutes. When cooked, buttered, salted, and peppered they are soon tired of as articles of food, and alleged to be "bilious."

Milk and cream are convenient and therefore important and desirable articles of food. It is a common assertion of patients that milk "always disagrees with them,"—that they have "never been able to take it. This statement, which, as a rule, may safely be attributed to mere prejudice, is in some cases a true one, simply for the reason that the milk is drank too rapidly, or because it is not rich enough, an easy remedy being to take the given quantity more slowly, or to increase by addition the amount of cream which the milk naturally possesses, the trouble being due, in the first instance, to the fact that a large and solid cheese curd is suddenly formed in the stomach by the rapidity with which the milk is deposited in that organ, and in the second, to the hardness of the casein derived from milk with an insufficient percentage of cream, which is always inconsistent in amount (varying between ten and fifteen per cent.) or in composition, the water alone ranging from forty-five to sixty-five per cent. Milk is often too poor, but never too rich, for purposes of *enforced nutrition*, and the fact is incontrovertible that it is the model food for digestibility. By adding cream to milk the amount of fat is increased and the curd is softened; and its digestion can be still further facilitated by the disintegration of its coagula, accomplished by crumbling into it bread, cracker, etc., or by the addition of a small amount of cooked meal or flour. By this latter means cold milk is made warm, which gives it an increased efficacy.

Very few patients, especially women, drink a sufficiency of water to maintain their health or an adequate nutrition. Water is an important constituent of food; is, indeed, the carrier of food into and through the system, and forms more than two-thirds of the whole body. Neglect to keep up the supply of water leads to a diminution in the quantity of blood, and lessens the body's strength. The constipation which is so common in ill-nourished persons is largely due to a want of liquid in the intestinal canal. This, therefore, will be ameliorated by the free use of water, as is also the constipating tendency of milk which is sometimes complained of, the curds being liquefied and reduced in size, and thereby made more readily digestible.

The underfed are benefited, and the process of feeding is helped, by alcohol. But the amount of alcohol which such persons may take as a food adjunct with advantage is very small. The cumulative effects of a medicinal dose at stated intervals are of greater utility than the more instant result of a larger allowance swallowed in a single drink. A measure of alcohol which produces an effect quickly, that is, which flushes the face, or exhilarates, as a sherry-glass of wine does with most females, for instance, is a toxic dose, and will be followed by reaction. It is a quantity short of this which is allowable. A teaspoonful, or at most a dessertspoonful, three or four times

a day, is usually as much as can be borne without such sequelæ as are above alluded to. Spirits serve their purpose better than wine, for the reason that the relative quantity of alcohol administered is more measureable. In any case there should be a large dilution with water, as a more gradually stimulating effect is thus produced. Alcoholic medicines ought never to be taken on an empty stomach.

The subject of bathing, incidentally alluded to, leads me to call attention to the fact that cold baths chill down the feeble circulation of the badly nourished, and provoke a physical torpor which is obstructive to the processes of nutrition.

THE NATURE OF MALARIA AS DRAWN FROM ITS MANIFESTATIONS.

By JOHN W. ELSTON, M. D., Kansas City, Mo.

From the *Med. Index*, June, 1884:—Malaria is assumed to be a material product of telluric origin under certain conditions of heat and moisture. If this assumption is true, what is the proof of it? If it is not true, is the name malaria or "bad air" the proper designation for the cause of certain periodical and continued fevers attributed to its assumed influence? Is the claim for an individual entity as a cause of these fevers termed malarial, established beyond question, as accepted and taught by a large proportion of the medical profession? Is the theory of the existence of such material poison tenable? In my judgment after having seen and treated these fevers in every climate from the tropic to the arctic and on diligent inquiry into many treatises on the subject, and after long and thoughtful consideration of the entire scope and range of its history and habitat, the conclusion is that nothing like a distinct material poison exists, and that on no account whatever can it be due to a specific organized agent in the atmosphere or accompanying it. In other words, material malaria that enters the system from without or develops within the organism and infects it is a pure assumption for which there is little or no reason—a mere myth from the fancy of the ever fertile brain of the theorist.

The discovery of the malarial contagium has often been announced, but never quite substantiated, although every one of these discoverers has adduced pretty strong testimony to support his claims and easily makes his poisonous agent account for every phenomenon that surrounds and characterizes the disease. It would be supererogation to enumerate all these failures, but I would like to mention the most prominent claimants to discovery of the toxic agency in malaria, and the basis of their individual claims. Fontanelle in 1826 analyzed air over marshes and found poisonous gases and together with Schwalbe, who confirmed these discoveries, succeeded in isolating four different gases, carbonic acid, sulphuretted and ammoniated hydrogen, and oxysulphide of carbon which in combination produced paroxysmal fevers in persons shut up in close rooms and supplied with them for respiration. But Eisenan in 1840 proved that solar heat together with electro-hygrometric agencies, without these gases, in a pure atmosphere would produce these paroxysmal fevers in more exact type and in greater proportion of cases under experiment than the gases alone. And these experiments of Eisenan were quite fully exemplified by Arm and as late as 1873, who ascribed to solar heat, especially when radiated back from the earth, together with moisture and electro-telluric influences, more power to produce these fevers than gases from decomposition or atmospheric causes. After Eisenan, came the era of "germ maniacs" who claim the existence of a specific epiphytic neoplasm that will account for every diseased action. To account for malarial phenomena, the existence of spores of infinitesimal proportions from the microscopic algæ was first advanced as a bare unsupported conjecture by Thomas of London, in 1854, and again by Skoda, of Italy, in 1859. The theory did not have to languish long unsupported. Baxa, of Berlin, and Balæstra, of Rome, and Saulsbury, of the United States, all within and about the same time, from 1860 to 1866, discovered these spores in the water and earth of marshes, and in the sputa and blood of the living, and the liver and spleen

of the dead. Aye, more, these spores were propagated and successfully used to infect healthy persons with genuine (?) malarial paroxysms. But alas! immediately following these remarkable discoveries and experiments, Harkness, of Boston, and Sir J. Edward Smith, of London, in their investigations into causes of periodicity in disease, wholly disproved the claim of these early germ advocates, by discovering the same germs in ice and snow regions, and in the blood and tissue of the healthy. Yet still more recently the claims of Tommassi-Crudelli, of Rome, and Klebs, of Prague, have apparently proved, by extensive experiments by propagation and inoculation, still another germ gathered from marsh water, soil and atmosphere which they have called the "*bacillus malarie*." This claim not being supported by confirmation, and is being doubted and disproved on every hand. Similar spores have been found in blood and tissue where there could not be a suspicion of the existence of malaria.

The old theory of the origin of this material malaria has become threadbare from being stretched to cover this and that and the other type of this adynamic fever, and from being attributed to every locality from marsh land to mountain top, and from being charged to every clime and season. This "bad air" is said to emanate from marsh lands, from low and shaded valleys, from freshly excavated damp, aluminous and alluvial soils, from exposure to the summer's sun, from exposure to the evening's cool shade, from exposure to evaporations of morning dew and mid-day aridity, from exhalations of water of stagnant pools and from the earth of hilltops and arid deserts, from shade and sun, mountain and valley, and from even the bodies of the sick that are not already affected. The fact stares us in the face that the seeking to fasten the origin and source of this assumed poison on some particular place or object, has only proved the absurdity of such attempts, by fastening it on almost everything and in almost every kind of locality. And to make it still more absurd, the very kind of localities credited with being most fertile in producing this mythical malarial agent—places situated in tropical and semi-tropical regions with all the conditions present; such as marshlands, stagnant waters, rank, herbaceous vegetation, deep valleys overshadowed by towering forests, below the standard altitude, and lastly beneath a burning tropical sun, such places remain free from even the mildest types of these fevers. Such places as Hawaii and other of the Sandwich Islands, Mauritius and other of the Mascaren Islands, and the Island of Ceylon; the City of Mexico and vicinity with the shallow and stagnant waters of Lake Tescuco in front of its very gates, some districts in Peru and Alabama, and many other places in Central and South America exist, where yellow fever nor any disease attributed to malaria was ever known. What scientific ingenuity can excuse these localities under either the old or new theories from being affected with these diseases?

We have thus failed to throw any light on the subject by tracing this cause of paroxysmal fever to any one source of origin. Neither of the questions "What is it?" nor "Where from?" is answered by history. And we are left to draw our conclusions as to both its nature and source from its manifestations and surroundings.

From the very nature and variety of its manifestations we are forced to conclude that this condition cannot be due to a simple or indivisible compound cause, but that many elements must act either singly or combined in every conceivable variety of their proportions to produce the varied effects observed in this disease. We assume then many causes all tending in the same direction to produce with little variation, one and the same condition, the malarial cachexia. Individual susceptibility to one or more, all or none, of these causes, is to be taken into account, just the same as it is in other diseases. The essential nature of the effect produced by any one or more of these elements or causes, may be stated to be weakened cell vitality. The way in which this one principal effect is produced is, in all probability, not only by several elements, but in a way peculiar to each. Now as to what all these causes may be and their nature, I would say: Solar heat may be stated to be one of the prominent elements in the causation of the malarial conditions. There can be no charge of specific contagium about that. The evaporation of water, pure or impure, charged with the exhalations from the

compositions of inorganic earth, alluvial or albuminous, under the influence of a certain degree of solar heat, enveloping the individual, might still make additional interference with cell life and relax and devitalize it, without any specific toxic influence that could be ascribed to it. Then we have in these exhalations carbonic acid gas and the oxysulphide of carbon, which are to us specific contagiums, but are agents in which, if the body is immersed, nothing worse in all nature could surround the cell, which by its very presence would prevent oxygen and food, from sustaining their weakened and devitalized organisms. Then, we have in the exhalations from both organic and inorganic sources, giving rise to the different compounds of hydrogen which are "especially antagonistic to cell activity," and by their presence also excluding the proper nourishment and the proper stimulus and supporter of life, oxygen. All these different agencies supplementing each other and exerting a continuous influence for some time tend through progressive stages of depression and devitalization to the destruction of cell life and disintegration of cell structure. No doubt but that Tommassi and Klebs have in their eager search for a material cause for this fever discovered a certain product-form from this disintegration, resembling a bacillus organism and have taken an effect for a cause.

Now, let me recapitulate the various causes which, singly or combined, seem capable of inducing and accounting for all the manifestations in the so-called malarial conditions. (1) Solar heat in excess of some physiological limits. (2) Moisture with or without this excess of solar heat holding in solution non-nutritive substances. (3) The exhalations from both organic and inorganic changes with or without heat and moisture. (4) Impaired cell function reacting to further impair cell life. (5) Deficient heat, light and electrical conditions. (6) Alternate excess and deficiency of heat, light, nutriment, organic function, oxygen and electricity. (7) Disintegrated cell detritus obstructing vital processes, especially the capillary circulations and acting as intolerable disturbances to nervous irritability and causing local congestions and anæmia.

Any one or all of these agencies acting on the individual, become paralyzing and destructive to vitality and account for all conditions without the least necessity of assuming the presence in the system of antagonistic or destructive poisons. The whole cause of the malarial condition and all of its phenomena are rationally explained by ascribing it to slow malnutritive influences and changes in cells and general structures, and the different types of these fevers can be accounted for by the varying susceptibility and the varying proportions of obstructives to a proper and complete nutrition.

In conclusion upon this subject, I wish to say that all remedies which have ever manifested efficiency to overcome and cure the malarial condition are those which have special power to preserve the integrity of cells, such as chloride of sodium, arsenic and the chinchona alkaloids; and those which have a special stimulating power to invigorate cell vitality and organic functional activity, such as whisky, piperine and quinine, and lastly anything, which by sudden shock and impressive action will stimulate the nervous system to sudden and renewed activity may cure by revulsion of cell vitality.

IRREGULAR APOPLECTIC ATTACKS, DUE TO OTHER CAUSES THAN HÆMORRHAGE AND EMBOLISM.

By GASPAR GRINWOLD, M.D., M.R.C.S., of New York.

From the *Jour. Amer. Med. Ass'n.*, July 19, 1884:—The term "*apoplectic attack*" is employed in the title of this paper to denote the sudden onset of a train of symptoms in which unconsciousness, hemiplegia and convulsions are more or less prominent. Many writers have used the word *apoplexy* to express a certain form of hæmorrhage, as in the terms *renal apoplexy* and *pulmonary apoplexy*; in this paper it will not be used in that sense, but will always be taken to mean the symptoms described, without reference to their causation.

Cases of functional disturbance of the cerebral circulation, even when sufficiently severe to cause the most alarming symptoms, rarely terminate fatally. *Post-mortem* examinations, which have done so much to clear up everything connected with organic brain disease, can assist us very little in studying those affections which depend merely upon functional irregularities in the cerebral blood supply. Whatever information we have on this subject is mainly the result of experiments and of clinical observations, and may be summarized as follows: (1.) Sudden *anæmia* of the brain causes unconsciousness and convulsions. This *anæmia* may be produced by failure of the heart's action, by pressure upon the carotids, or by the action of the vaso-motor nerves. The vaso-motor nerves may act in two ways to cause *anæmia* of the brain: first, *directly*, by causing contraction of the cerebral arteries; second, *indirectly*, by causing dilatation of the abdominal blood-vessels, thus lowering the general blood-pressure and draining the blood from the brain into the vessels of the trunk. (2.) *Venous hyperæmia* of the brain, through the privation of oxygen which it involves, has the same effects as *anæmia*. (3.) *Arterial hyperæmia* of the brain is more difficult to produce artificially than the preceding conditions, and has been less carefully studied; modern pathologists are inclined to look upon it as a rare and comparatively unimportant event. This is in marked contrast with the views of our ancestors, with whom *active cerebral congestion* and *congestive apoplexy* were much talked of; modern observation, however, has proved that convulsions, dizziness and similar symptoms, which were formerly attributed to a rush of blood to the head, are in reality much more frequently dependent upon cerebral *anæmia*.

The best understood of all the diseases depending upon disturbance of the brain circulation, and the one which has been most thoroughly studied, is epilepsy. A typical epileptic seizure is ushered in by contraction of the cerebral arterioles, the face becoming pale and the pupils dilating; unconsciousness follows, the patient falling to the ground in convulsions which are at first tonic, and then clonic. The convulsions last one or two minutes, and are succeeded by a condition of lethargy, or semi-coma, which usually terminates in from ten to forty minutes; the patient then returns to his normal condition until the occurrence of the next paroxysm. Such a picture is not hard to recognize, and a diagnosis is usually easy. But suppose, from the same causes, we have an attack in which the ushering-in convulsions are so indistinct as to escape notice—nothing but a rolling up of the eyes or a few twitches. Suppose the unconsciousness lasts for hours, and is so profound as to merit the name of true coma—the patient cannot be roused, his pupils are dilated and do not respond to light, his breathing is stertorous and his face is cyanosed. If to these symptoms we add the transient hemiplegia which is occasionally seen with epilepsy, the condition will imitate apoplexy from organic lesion almost too closely to admit of detection.

Attacks of vertigo from stomach disorder are very common, and are not often mistaken for anything else; but occasionally cases are met with in which the same conditions are in some way aggravated, and instead of vertigo, we find profound stertorous coma. Such cases, at first sight, and even after careful examination, often present all the symptoms which usually indicate grave organic lesions, and a correct diagnosis is rarely made until the sudden recovery of the patient points the way to it. And so in many ways, and under a variety of circumstances, apoplectic attacks may occur, so severe as to seemingly warrant the gravest prognosis, and yet terminating in recovery so suddenly as to make the existence of any organic lesion extremely improbable.

QUININE SUBCUTANEOUSLY ADMINISTERED.

By A. F. KINNE, M.D., Ypsilanti, Mich.

In a paper published in the *Obs. Gazette*, Dr. Kinne advanced five propositions and earnestly solicited the coöperation of the members in submitting them to the ordeal of a trial in practice: (1.) That the hypodermic method is preferable to any other, in case the use of quinine is requisite, in the dis-

orders of infancy and childhood. (2.) In all those cases where cinchonism must be produced promptly, the use of the needle is indispensable. (3.) The hypodermic method is almost equally valuable in case the temperature is high and the patient comatose. (4.) It is also preferable when the medicine is not tolerated by the stomach, and especially, if it is rejected by the stomach and rectum both. (5.) We should not forget its greater economy; as one-half less is required than when administered by the mouth, and three-quarters less than when administered by the rectum.

Notwithstanding these great and very obvious advantages, however, the subcutaneous administration of quinine is not likely to become popular, unless some method can be pointed out by which the danger of producing a resultant abscess can be obviated, or, at least, greatly diminished. And this observation is especially true in the treatment of children and of the more adipose sex.

While the subcutaneous areolar tissue is perfectly flexible, it is not particularly strong, it is non-elastic, and it is almost totally inextensible. When it is remembered that the tearing force of hypodermic injection is equal at every point to the whole pressure of the thumb upon the top of the piston, it will be readily seen how easy it must be to do an injury to the areolar substance, of which a local redness and tenderness and possibly an abscess may be the inevitable consequence.

The lesson to be derived from this will be readily seen. There are portions of the dermal surface where the skin applies more loosely, and where the areolar spaces will be found to have relatively a greater capacity. These loose spaces are to be carefully sought after and filled according to their capacity; but no force is to be applied to the top of the piston; time is to be taken, and the fingers of the other hand must carefully study the top of the rising prominence to guard against a dangerous degree of tension.

The weakness of the best solution of the sulphate of quinine that can be made must always constitute a strong objection to its hypodermic use. Dr. Bartholow's solution is made follows:

R. Quinæ sulph., grs. 50; acidi sulph. dil., ℥. 100; aqua font., ʒi; acidi carbol. Sig. M. 5. Solv.

This is probably the best solution of the sulphate of quinine that can be made. But an ordinary syringeful of it contains only about three grains of the salt. It is too weak. In those desperate cases, where, in order to save life, we must have cinchonism within an hour's time, it will be necessary to refill the syringe from ten to fourteen times. And in an emergency we must not hesitate to do even this; but we can do better.

A very sanguine advocate of an acid solution of quinine, similar to this, reports having given "sixteen injections of thirty minims each (representing sixty grains of quinine), to one adult patient within twenty-four hours, with the very best results." But still we can do better.

A fluid ounce of a solution of the bimuriate of quinia and urea represents 480 grains of quinia (*New York Medical Record*, August 7, 1880, p. 164.); a fluid ounce of the best solution of quinine that can be made contains not more than fifty or sixty grains. The former solution is at least as unirritating as a solution of morphine; and the objections that this new salt is not ordinarily kept in the shops, and that it contains urea, are practically of no consequence.

There can be no abscess, as the consequence of a hypodermic injection, without the adverse concurrent action of these two causes. First, some little injury must have been done to the areolar tissue; and, second, there must in some way have been an introduction of atmospheric germs.

It may seem that a solution of quinine, made by adding sulphuric acid, must necessarily be aseptic, from the antiseptic action of the acid. But the redness and tumefaction that so frequently follow the insertion of the needle, and the necessity for adding carbolic acid to avoid an abscess, prove that this acid solution of quinine sulphate is not unirritating, and not destructive of atmospheric germs. A solution of the bimuriate of quinia with urea, on the other hand, does not change with keeping, and never produces an abscess in any case.

In the discussion that followed the reading of my first paper, a learned brother, not with us to-day, objected to the use of Drygin's salt (the bimuriatica carbo midata) that it contains urea, and cannot be used without danger of producing uræmic poisoning. But this objection, though an ingenious and plausible one, will not bear inspection; for, as already stated, the addition of the urea, while it renders the quinia salt more soluble and less irritating, does not appear to alter its therapeutic qualities in any way. And, moreover, our experience in the use of this double salt has demonstrated another point of very great interest and importance, viz.: that uræmic poisoning is not due to the chemical, urea, and must be attributed, therefore, to cadaveric salts of the body, the ptomaines, which are converted into urea to render them harmless and bring about their elimination.

In conclusion we say:

1. A hypodermic injection of the bimuriate of quinia and urea is milder and safer than an ordinary injection of the sulphate of morphia, and even less care is requisite in its administration.

2. But if, for any reason, this salt can not be readily obtained or is not at hand, let us have an acid solution of the sulphate as above described, or similar to it, and let the pharmacist be absolutely sure that the water used in making the solution is free from atmospheric germs.

3. But by far the most important part of the operation is the selection of such areolar spaces as will contain the injection required, without laceration and without tension even. And these will be found not within the parenchyma of the cellular tissue, but through it and beneath it, between the cellular tissue and the parts subjacent. I used to say, let us make our injections small, and multiply them. But obviously, if we select ampler areolar spaces, the necessity for this will, in a great measure, be obviated.

I am indebted for this suggestion to Dr. N. S. Guice, of Fayette, Miss. (Transactions of Mississippi State Medical Association, 1883.)

ON THE ORIGIN OF YELLOW FEVER.

By L. W. LUSCHER, M.D., Kansas City, Mo.

From the *Kansas City Medical Record*, June, 1884.—In your last number there was a critique by Dr. John T. Jones, of Arkoe, Mo., on a short article published in your March number, 1884, in which I ventured to place before your readers some conclusions regarding the origin of yellow fever in the vicinity of the Mexican Gulf.

I stated, in substance, that I had noticed that the principal districts where yellow fever had been known to exist endemically were located to the leeward of swamps or low alluvial land, that is, referring to the prevailing winds. The historical facts that I selected are such as I think the profession generally accept as true. They are as follows: That it requires a moist atmosphere, kept at a very high temperature—I did not state how high, but different writers have placed it from 93° to 98° Fahr.—for several days—I did not say how many, but five or six are generally considered necessary. Writers state that the temperature must at no time during the specified period fall below the certain specified figure. I also stated that hygienic conditions were supposed to have their influence on it.

The doctor, after quoting my conclusion—that the primary germ is developed in the swamp and carried on the damp winds to the cities, where, under favorable circumstances, the characteristic effects are produced, writes as follows: "That certain telluric and atmospheric conditions are indispensable to the existence and propagation of the disease I concede; but that it ever does originate through the agency of any such causes *de novo*, or in any other way than by the reproduction by itself of its specific contagion, either inside or outside the human body, I deny." That is to say that the disease is not miasmatic, and that it has no miasmatic element in it, but is as purely contagious as is small-pox, measles, and other such diseases. That such a theory has been generally accepted by the profession is certainly new to me, and I think to a majority of the profession.

The doctor brings in support of his opinion a statement similar to his own by Professor Bemiss, of New Orleans, and a few general points of analogy that are common to miasmatic diseases, to contrast with the symptoms of yellow fever. That the disease, unlike ordinary miasmatic diseases, is self-limited, and is confined to one paroxysm, and does not yield to the effects of quinine, so readily at least as, they are known to most medical men. That "it is reproduced in the human body and thence re-infects places and persons," and that "its contagion is portable in fomites," while purely miasmatic diseases are not, is granted, and I think without harm to the theory that the peculiar organic germ that produces the disease where the circumstances are favorable may be developed in swamps and infect cities, ships, etc.

I don't think any one claims that the disease is purely miasmatic; but because it does not belong to the class miasmatic does not prevent its taking its start from an organism developed in swamps, and floated in the air to points where it infects. This primal organism may undergo a dozen changes before it is capable of producing the specific disease. In fact, that it does undergo changes after it has reached the habitations of men seems probable, owing to the length of time required for the disease to manifest itself—all the circumstances being favorable.

TYPHOID FEVER.

By W. N. BULLARD, M.D., of Boston.

In the Proceedings of the *Suffolk District Med. Soc.*, published July 17, 1884, Dr. Bullard reports a series of cases and says:—As a total, then, in these three houses we have thirty cases of typhoid fever, and if we add one case which was taken ill just after leaving one of these houses, and three cases in the adjoining houses, we have in the whole thirty-four. Out of these, twenty-eight were under my care for either the whole or a part of the time. The total number of cases under my care between October 12, 1883, and January 23, 1884, inclusive, at which dates the first and last of the cases in the houses under consideration were noted, was forty-five, leaving seventeen cases in the North End not included in the cases mentioned. But of these seventeen, four cases were in all probability connected with those described, three being in the family of a woman who had washed clothes for family B, and the fourth case being a girl of twenty-two, a cousin of family D. Out of forty five cases of typhoid fever under my care there were, therefore, only thirteen in which no connection with these houses could be traced.

Out of sixty-seven cases, all that were reported from this portion of the North End within this period, we find but twenty-four not plainly connected with one of these houses.

Such an epidemic as this seems to me to point very clearly to the contagiousness of typhoid fever, particularly in the case of those naturally disposed to it. There can be no doubt but that, as Pfeiffer has lately pointed out in the *Berl. Klin. Wochenschrift*, certain families possess a special immunity in regard to this disease, while in others perhaps there is a certain predisposition toward it. In these houses there were two families which entirely escaped, one of which, however, was away from the house a portion of the time, and the other consisted only of adults. There was one family in which there was only one case, but this family had already removed from the house when this case occurred. There was one family (all adults) in which there were two cases, one in which there were three, one in which there were four, and three in which there were seven.

As to the cause or origin of this epidemic, I have at the present moment nothing to say, but if any positive conclusions can be drawn from our investigations I shall hope to bring them to your notice at some future time. I will, however, say a word in regard to some of the ways in which this may have spread. In all these cases, except perhaps the very first, precautions were taken in regard to the water-closets or vaults and the excreta of patients.

The Board of Health was of course informed of every case as it occurred, and examined the houses repeatedly, with the results to be given. In House I. the water-closet was outside and apart from the house.

In two at least of these cases the disease seems to have been obtained from washing the clothes of patients. This was probably the case with the servant in family B, and very possibly also in the case of the family who likewise had the fever after the mother had washed for one of these families. In the latter, however, it was not the mother who had the fever first, but one of the children.

(In a Portuguese family, which had the fever a little later in another part of — Street, the disease in a young girl, the last of the family who had it, seemed directly traceable to her having washed the clothes of those ill previously.)

In none of these cases could the patient be isolated from the rest of the family. At the most there were only two sleeping rooms and frequently only one.

The conclusions to be drawn from this epidemic seems to be—(1.) That we cannot be too careful in using every reasonable means to prevent the spread of typhoid fever, and not confine ourselves exclusively to care in regard to the excreta. (2.) That although in ordinary cases typhoid fever is not an extremely contagious or infective disease, yet that under certain conditions at present not well understood it may become so. (3.) That special attention should be paid to the washing of the clothes of patients, more especially of any which may be stained or soiled by their excreta. (4.) That great care should be taken to disinfect the chamber vessel or pail used by the patient, and that no other member of the family should be allowed to use it under any conditions.

THE TREATMENT OF DIABETES MELLITUS.

By AUSTIN FLINT, Jr., M.D., Prof. of Phys. in the Bell. Hosp. Med. Coll., N. Y.

From the *Jour. Amer. Med. Ass'n.*, July 12, 1884:—*What constitutes Diabetes Mellitus?*—A patient with abnormal thirst, dryness of the mouth, suffering from fatigue following slight muscular exertion, progressively losing strength and weight, and passing an abnormally large quantity of urine of high specific gravity and containing sugar, has the disease known as diabetes mellitus; but the various symptoms just enumerated may exist in greater or less degree, or some of them may be absent. In addition to these symptoms, others may exist; such as, abnormal dryness of the skin, deficient perspiration on exercise or in warm weather, pruritus of the vulva, a tendency to furuncles, unusual liability to "take cold," reduction in the general temperature of the body, an excessive appetite, failure of the generative functions, etc., but these are not necessarily present in cases of diabetes.

On the other hand, none of the general symptoms that I have mentioned may be observed; the urine may be normal as regards quantity and specific gravity; but still sugar may constantly exist in small quantity. In such instances, which are not very infrequently observed, the constant, necessary, and invariable symptom of diabetes is present; namely, glycosuria. Strictly speaking, perhaps, patients with no general symptoms, with no increase in the quantity of urine, and with urine of normal specific gravity, may be said to be affected with glycosuria, but not to have diabetes.

Being brought then, face to face with a disease, very obscure in its pathology, and not infrequent in its occurrence, the practical question, to which I intended to devote the main part of this paper, is, how far it is amenable to treatment.

Time does not permit me to discuss fully the treatment recommended by different writers. I desire to state at the outset, that the main and almost the sole reliance of the physician should be upon diet; and that the suppression of starch and sugar should be practically absolute. Bearing this fact constantly in mind, in considering the different measures of treatment, I shall divide them into dietetic, general, and medicinal.

Dietetic Treatment.—Selecting every dish known in the culinary art, without reference to the trouble or expense of its preparation, a rigid diet is by no means easy of enforcement. Patients at first have an intense craving for bread; and this desire is so nearly universal that almost all writers on dia-

betes suggest some substitute for this important article of food. I do not hesitate to say, however, without specifying any one of the so-called anti-diabetic breads and flours as especially bad, that all the articles of this kind in our markets are absolutely unreliable and most of them fraudulent. I have analyzed, or caused to be analyzed, nearly all of the so-called bran-flours, and gluten-flours, and have invariably found large quantities of starch. In the rigid dietetic treatment, bread should be absolutely interdicted, or, in case patients should refuse to submit to a strict diet, a small quantity of crust of bread taken with an abundance of butter may be allowed under protest.

A rigid diet, without bread, should be continued until the sugar has disappeared from the urine and all the diabetic symptoms have been removed.

In cases in which the treatment is followed by an apparent cure, sugar disappearing from the urine, a gradual return to the normal diet should be begun about two months after the glycosuria has ceased; but it is of the greatest importance, during this part of the treatment, to keep patients, if possible, under constant observation, examining the urine at least once in five or six days.

General Treatment.—Measures of general treatment are to be directed mainly to promoting the proper action of the skin, which is often harsh and abnormally dry, and to general muscular exercise. Systematic rubbing, as practiced by massage, and Turkish or Russian baths once a week, if they be not contra-indicated by some complicating conditions, are useful. A reasonable restriction in the taking of liquids is quite important in diminishing the quantity of urine. Under the dietetic treatment the excessive thirst is almost always relieved; but when this persists, it may often be temporarily met, as far as dryness of the mouth is concerned, by taking small pieces of ice from time to time instead of drinking water. I do not know that any reliance is to be placed upon the use of the various mineral waters that are said to exert a curative influence over the disease in question. Alcoholic stimulants are to be avoided. In certain cases, some kind of alcoholic beverage seems to be necessary to maintain the vital powers. For this purpose, a fairly good, sound claret has seemed to me to be the best form in which alcohol may be taken. Spirits should be interdicted or given very sparingly, and not more than a pint of claret should be taken daily.

Patients suffering from diabetes lose, to a certain extent, their capacity for sustained mental effort. They should be cautioned, therefore, against excessive intellectual work. In some cases apparently cured, I have noted a return of the glycosuria, which seemed to be fairly attributable to mental causes. The insomnia rarely demands the use of narcotics and is usually relieved with the other symptoms by the anti-diabetic diet.

The various minor complications that are liable to occur can usually be overcome by appropriate treatment. The occurrence of boils is very common and they are likely to be persistent and annoying. When the tendency to boils is very marked, the sulphide of calcium is useful, although this agent does not seem to exert a curative influence over the diabetes itself. The sulphide of calcium has been recommended very highly as a remedy controlling the glycosuria; but it is often disagreeable to patients and disturbs digestion.

A very important, and perhaps the most important, measure of general treatment is systematic muscular exercise, not carried to the extent of producing excessive fatigue. This may be taken in the form of gymnastics, or of out-door exercise, such as riding or athletic sports; but patients should always be cautioned to avoid "taking cold."

The diminished power of resistance to cold which exists nearly always in diabetes renders it necessary to enjoin great care in avoiding exposure to the vicissitudes of the weather, and the constant protection of the body by warm clothing, especially flannels near the skin.

Medicinal Treatment.—There is no remedy that exerts a curative influence over diabetes in the absence of proper dietetic measures. Opium, the bromides, sulphide of calcium, various mineral waters, and other medicinal agents that have been recommended from time to time, have all proved very unsatisfactory in practice. Of course it is difficult to estimate the value of

drugs in this as in many other diseases, particularly as the physician is not justified, in my opinion, in neglecting to enforce a rigid diet which in itself in the great majority of cases, exerts a most decided influence over the glycosuria and the general symptoms. On theoretical grounds, Cantani recommends lactic acid, taken in the form of a "lemonade," in small quantities throughout the day. The formula for this mixture is the following:

R. Pure lactic acid, 3 issa to 3 v; aromatic water, 3 v to 5 j; water, Ojj.

This remedy is regarded by Cantani as useful in many cases but not essential. I have little experience in its employment.

Keeping in mind the small reliance to be placed in the efficacy of drugs unconjoined with dietetic measures, I must bear testimony to the apparent advantage to be derived from the use of the arsenite of bromine, recently proposed by Clemens. While I have not felt justified in using this remedy to the exclusion of the anti-diabetic diet in treatment, for the reason that the bad effects of an unrestricted diet frequently persist for some time, I have noted very marked effects from Clemens's solution in controlling the discharge of sugar and some of the distressing symptoms, particularly the excessive thirst; so that, aside from simple measures to relieve sleeplessness, constipation, or other intercurrent difficulties, I have lately been in the habit of prescribing, in addition to the diet, three drops of Clemens's solution, three times daily, in a wine-glass of water, after each meal, gradually increasing the dose to five drops. The following is the formula for this remedy, which I have had prepared by Mr. William Neergaard, 1183 Broadway, New York City, and which may be written for under the name of "Clemens's Solution of Arsenite of Bromine."

"Liquor brom-arsen consists simply of a chemical union of arsenious acid and bromine, dissolved in water and glycerine, in such a manner that two drops represent the twenty-fourth part of a grain of arsenite of bromine."

DIET-TABLE FOR DIABETICS.

BREAKFAST.—Oysters stewed, without milk or flour; clams stewed, without milk or flour. Beefsteak, beefsteak with fried onions, broiled chicken, mutton or lamb chops, kidneys, broiled, stewed, or deviled; tripe, pig's feet, game, ham, bacon, deviled turkey or chicken, sausage, corned-beef hash without potato, minced beef, turkey, chicken, or game, with poached eggs.

All kinds of fish, fish-roe, fish-balls, without potato. Eggs cooked in any way except with flour or sugar, scrambled eggs with chipped smoked beef, picked salt cod-fish with eggs, omelets plain or with ham, with smoked beef, kidneys, asparagus-points, fine herbs, parsley, truffles, or mushrooms. Radishes, cucumbers, water-cresses, butter, pot-cheese. Tea or coffee, with a little cream and no sugar. (Glycerine may be used instead of sugar if desired.)

Light red wine for those who are in the habit of taking wine at breakfast.

LUNCH OR TEA.—Oysters or clams cooked in any way except with flour and milk, chicken, lobster, or any kind of salad except potato, fish of all kinds, chops, steaks, ham, tongue, eggs, crabs, or any kind of meat, head-cheese. Red wine, dry sherry, or Bass's ale.

DINNER.—Raw oysters, raw clams.

Soups. *Consommé* of beef, of veal, of chicken, or of turtle, *consommé* with asparagus-points, *consommé* with okra, ox-tail, turtle, terrapin, oyster or clam, without flour or milk; chowder, without milk or potatoes, mock turtle, mullagatawny, tomato, gumbo *filet*.

Fish, etc.—All kinds of fish, lobsters, oysters, clams, terrapin, shrimps, crawfish, hard-shell crabs, soft-shell crabs. (No sauces containing flour or milk.) *Relishes.*—Pickles, radishes, celery, sardines, anchovies, olives.

Meats.—All kinds of meat cooked in any way except with flour, all kinds of poultry without dressings containing bread or flour, calf's head, kidneys, sweet-breads, lamb-fries, ham, tongue, all kinds of game; veal, fowl, sweet-breads, etc., with currie but not thickened with flour. (*No liver*.)

Vegetables.—Truffles, lettuce, romaine, chiccory, endive, cucumbers, spinach, sorrel, beet-tops, cauliflower, cabbage, Brussels-sprouts, dandelions, tomatoes, radishes, oyster-plant, celery, onions, string-beans, water-cresses,

asparagus, *artichauts*, Jerusalem artichokes, parsley, mushrooms, all kinds of herbs.

Substitutes for Sweets.—Peaches preserved in brandy without sugar, wine-jelly without sugar, *gelée au kirsch* without sugar, *omelette au rhum* without sugar, *omelette à la vanille* without sugar, *gelée au rhum* without sugar, *gelée au café* without sugar.

Miscellaneous.—Butter, cheese of all kinds, eggs cooked in all ways except with flour or sugar, sauces without sugar, milk, or flour. Almonds, hazelnuts, walnuts, cocoanuts. Tea or coffee with a little cream and without sugar. (Glycerine may be used instead of sugar if desired.) Moderately palatable ice-creams and wine-jellies may be made, sweetened with pure glycerine; but although these may be quite satisfactory for a time they soon become distasteful.

Alcoholic Beverages.—Claret, burgundy, dry sherry, Bass's ale or bitter beer. (No sweet wines.)

Prohibited.—Ordinary bread, cake, etc., made with flour, sugar, desserts made with flour or sugar, vegetables, except those mentioned above, sweet fruits.

DIABETES INSIPIDUS.

By SAM'L AUG. FISK, M.D., (HARV.), Prof. of Descriptive Anat., Med. Dep. of the Univ. of Denver, Denver, Colorado.

Dr. Fisk gives, in the *Boston Med. and Surg. Jour.*, July 31, 1884, a detailed history of a case occurring in a male patient 28 years of age and says:—The prominent features in the case just narrated are the secretion of a large amount of urine, of a low specific gravity, and the excessive thirst. For six months and over the average secretion of urine has been about 10,000 cubic centimeters *per diem*, while the daily ingestion of fluids has been fully as large.

The question might be raised as to whether the polyuria was produced by the polydipsia, the latter being the result of habit. The writer is convinced that such is not the case. In the first place there is evidently an inherited predisposition to diabetic troubles, then the onset of the disease was sudden, and from the first the thirst was excessive. The patient tried to control this craving for fluids by eating ice, by drinking lime-juice, and also by drinking dilute H_2SO_4 , by sucking lemons, and by limiting the amount of fluids ingested, and all of these measures have been of no avail. After abstaining from drink for a longer time than usual the thirst will become so intense that it requires a larger draught than usual to be satisfying and to give relief. Indeed, it seems to be absolutely necessary that the ingestion of liquids during the twenty-four hours should be somewhat in excess of the amount of urine voided in the same time.

In regard to the relation of the polydipsia to the polyuria Dr. Flint remarks, "There is no advantage in limiting the amount of fluids ingested. On the contrary the patient is rendered thereby uncomfortable, irritable, and the consequence is otherwise hurtful."

Dr. Brunton, in Reynolds', writes: "Acting on the notion that the polyuria was a consequence of polydipsia patients have been put on a limited amount of fluid, but without any good result, the tormenting thirst becoming increased, and the general condition worse."

Senator, in Ziemssen, says: "A sudden deprivation of ingested fluids may, on the other hand, not only have an injurious effect upon the subjective conditions of the patients, who are much distressed by the thirst which torments them, but may also seriously endanger life by the drying of the tissues which is thus produced." In another place he writes: "It is to be noticed, however, that at any rate in a large majority of cases the thirst and the greater ingestion of fluids are secondary phenomena, dependent upon the increased diuresis." The reporter can testify that in his own case an interval of an hour and a half without the ingestion of any fluid produces a thirst as intense as he formerly was wont to experience after walking several miles on a hot day.

Drugs. Dr. DaCosta has reported a case that was cured by the administration of the *fluid extract of ergot* in large doses. On the other hand, Dr. Tyson failed to get any good results by giving ergot in drachm doses. In the present case ergot in drachm doses had no effect upon the secretion of urine, but it produced the most unpleasant effects upon the general health. *Morphine* was given on the theory that it would have a sedative effect on the nervous system, and also relieve any irritability about the sphincter of the bladder. It was taken in doses sufficient to produce a dryness of the fauces and a tingling sensation of the skin together with an itching of the nose. It produced, perhaps, a slight diminution in the amount of urine secreted, but the effect was not sufficient to warrant the continued exhibition of the drug. Morphine was given hypodermically at night in order to thoroughly narcotize the patient, and thus break up the habit, if habit it was, of his having to get up so frequently to void his urine. But when it was found, by a trial of several nights, that seven drops of Magendie's solution would produce a delirium which would keep the patient awake for several hours the experiment was not continued.

As the reader's attention was called to reports of cures from the use of the *valerianate of zinc* in five-grain doses he determined to give that treatment a trial, but here, too, the results did not justify a continuance of the remedy. So far the effects of the drugs employed have not been good. There was, perhaps, a slight diminution of the thirst and of the secretion of urine under the morphine treatment, but they were not sufficient to justify the subject in taking the risk of contracting the opium habit.

Prognosis. Roberts gives it at his opinion that "The cases which affect the general health the least, though mostly incurable, appear to be those which arise after the inflammatory complaints, after mental emotion, cerebral injuries, and those which arise early in life without any known cause."

Bristowe writes: "In some cases the patient appears to be well in all other respects, and, except for the continued presence of his infirmity, enjoys life, probably attaining old age. In some cases he presents all the usual indications of diabetes mellitus, and, after a longer or shorter time, dies as ordinary diabetics die."

Bartholow gives the following prognosis, namely: "Although death is rarely due to the disease, the prognosis is not favorable as to cure. In most cases the disease is rather an inconvenience, owing to the frequent calls to micturate and the incessant thirst, than a dangerous malady."

In the latest edition (1881) of Flint's Practice of Medicine we read: "It is not incompatible with good appetite, digestion, and nutrition. It has been tolerated fifty years. The prognosis is favorable as regards the duration of life and the preservation of the general health if the disease be uncomplicated, but it is unfavorable as regards recovery from the disease."

Dr. Brunton, in Keynold's, says: "This disease resists treatment, and is rarely cured. The duration of life, in general, does not seem to be greatly shortened by it." And Senator (Ziemssen) writes: "Permanent recovery from this disease is rare, but death, in uncomplicated cases, is still more rare."

In conclusion the reporter wishes to put on record the fact that, six months after the onset of the disease, he is in the possession of strength, good appetite, and full weight.

LIMITATIONS OF PATHOGNOMONIC SIGNS AND SYMPTOMS.

By EDWARD G. JANEWAY, M.D., Visiting Phys. to Bell. Hosp., N. Y.

From the *Jour. Amer. Med. Ass'n*, Aug. 2, 1884:—Those diagnoses which are rightly denominatèd snap, may at times be brilliant, but he who indulges in them frequently, no matter how well informed, will be sure to make mistakes. Diseases do not follow an absolute rule in their manifestations, and he who would have them always square with the written description will obtain but a partial insight into their nature.

The nervous system allows of fewer claims of pathognomonic signs or symptoms than do most of the other organs. Yet it was not so long since that many were willing to accept the presence of *optic neuritis* or *choked disc*

conjoined with headache as characteristic of a cerebral tumor. At present we would accept the optic neuritis as indication of increased intracranial pressure only, not necessarily that this pressure was due to a tumor; moreover we should place the limitation to this consideration by excluding the possibility of Bright's disease.

This symptom or sign can only be accepted with considerable limitation as pathognomonic.

There seems to be a wide discrepancy, also, as regards the examination of the *fundus of the eye*, in cases of so-called congestion of the brain. Some have relied upon a certain state of the retinal vessels as proving that the brain was also congested. Yet here, surely, the margin must be very large, for the writer has met instances in which patients, who, having the same symptoms during their whole course of medical pilgrimage in New York, and at times abroad, also, have been told that they had congestion by some, anæmia by others.

Volitional tremor is relied upon, also, as discriminative of multiple sclerosis, yet here we have to consider the possibility of metallic poison, especially mercury, or the effects of alcohol, before accepting the tremor as due to this lesion.

Perhaps the most difficult matter which comes to a physician for solution is *coma*, and if in this state we could meet with some sign of absolute distinction, we might be delivered from much of the uncertainty of diagnosis. There are those who hold that in this state the temperature of the body will furnish a clue as between uræmia and hæmorrhage; but, unfortunately, some claim an elevated temperature, others a normal, as proper to the former condition. The truth is that we find the temperature too variable to become a guide, though a lowering at the outset, with subsequent elevation, points very certainly, if not with absolute positiveness, to hæmorrhage as the cause of the unconscious state. But we meet here a very decided limitation, in that we so often fail to obtain a knowledge of the initial lowering of temperature.

Others have proposed and would rely upon the presence of *albumen and casts*, one or both, as distinctive between uræmia and hæmorrhage. Alas! only too frequently disease of the kidney co-exists with cerebral hæmorrhage, so that the presence of albumen and casts are not infrequent accompaniments of the latter of these states, and do not help us in deciding as to the cause of the coma.

The writer has found those signs which are regarded as pathognomonic, as, for instance, between embolism and hæmorrhage, or obliterating endarteritis, liable at times to mislead, unless their application is limited with certain qualifications. For illustration, heart murmurs may exist, and yet, instead of cerebral embolism, hæmorrhage may be the cause of a hemiplegic attack. The reverse is, also, not infrequently true; a heart murmur is absent, and yet cerebral embolism takes place, owing to the obstructing plug having been detached from a thrombus out of the way of the direct blood current, as in the auricle, etc. So, too, an obliterating endarteritis may cause a sudden attack. Neither does the method of recovery upon which others would depend always lead us safely through the maze of possibilities naturally inherent in these cases.

Again, *rigidity of the neck* through tonic spasm of the cervical muscles, is a valuable sign in cases where a fever or internal inflammation is liable to be confounded with meningitis. It is, however, in no sense pathognomonic, or, rather, admits of considerable limitation.

Beyond those cases where a slight degree of it is present in pneumonia, etc. (of childhood particularly), the writer has found it very markedly present in one case of ventricular hæmorrhage, and in one case of subependymal softening of the lateral ventricle, involving, to a considerable degree, the sensory tracts in their passage toward the occipital lobes.

The writer, as others, has been obliged to receive *tendon reflexes*, or rather their plus and minus changes, with considerable limitations, as indicative of disease. He has found, as others, the normal possibilities too considerable.

Electrical reactions, though much relied on, do not absolutely discriminate the nature of a lesion nor its site; for instance if there is degeneration

reaction present, the lesion may either be situated in the nerves, the anterior nerve roots, in the anterior cornua, or be of uncertain site, as in the case of lead-poisoning. A knowledge of the history and causation is essential to a correct appreciation of a given case.

In considering pulmonary complaints we find but few signs considered pathognomonic of themselves, but some which in connection with others are regarded as determining.

Thus *vocal fremitus* is often relied upon as distinguishing between pleural effusion and pneumonic consolidation, where a doubt may have existed, owing to the peculiar combination of signs present. That it has a certain value the writer is prepared to admit, but that it can in no sense be considered as positive, the following brief allusions will illustrate. The writer has met two cases of complete consolidation of the lung with obstruction of the main bronchus by an aneurism in which there was absence of vocal fremitus, etc. Again it is a very rare event to have vocal fremitus preserved in cases of pleural effusion, nay, even to have it intensified. The writer has frequently noted mistakes made by supposing vocal fremitus preserved, because existing at the upper level of the pleural effusions, when absent below. There is perhaps no greater difficulty than is presented by a case of this character in which the bronchial breathing is present to a notable degree. Even the exploratory puncture by the hypodermic syringe-needle has its limitations in these conditions, because it might be possible to have it fail of withdrawing fluid owing to obstruction, leakage, etc., or if withdrawing it, to make sure that it is not because of the existence of a combination of the two diseases. It might be added that the writer has examined some of these cases after death, and became assured that both serous effusion and empyema can, independent of a consolidation, cause increase of vocal fremitus. The limitations then in a doubtful case become so great that the sign loses a large measure of its force.

The limitations of *cracked pot percussion note* as distinctive of a cavity are so familiar to you all, that it would be a waste of time to repeat them. But limitations are necessary in considering the importance of the signs considered pathognomonic of a cavity. Probably you are all aware that at times the physical signs of a cavity may exist, and yet the lung be consolidated, or compressed by fluid. The writer has been particularly impressed with this in the examination of certain cases of empyema, serous pleurisy and hydrothorax. No very good explanation could be offered for this deviation from the general rule so far as the writer has been able to study it in the cases which have come under observation.

The pathognomonic importance of *râles* as indicative of fluids in bronchial tubes or of changes in their calibre, or in the case of the crepitant, of separation of the sticky sides of the air cells and small bronchioles is but little called in question. Yet there are those who believe that pleural conditions cause certain of these phenomena. The writer has met a few cases where a crepitant râle was present in the imitation of a pleurisy. Hence, beyond the usual limitation of this râle, he would add this as of rare occurrence in his experience.

Another sign regarded as pathognomonic, is the *succussion sound*. There can be no question of its origin from the shaking of air and fluid in a hollow space. The writer has, however, obtained it in several other conditions than hydro-pneumothorax, notably so in cases when from catarrhal or other trouble fermentation occurred in the stomach. He has, however, met with but one instance in which such succussion had led to a mistake in diagnosis.

In the study of diseases of the heart, several important limitations are to be placed upon *murmurs* as pathognomonic. Not infrequently the writer has met persons with weak heart from myocarditis, degeneration, etc., who had been informed, presumably by competent authority, that they had no disease, because of the absence of murmurs, and of evidence of marked enlargement of the heart. And on the other hand, it is supposed that because a murmur is heard over the heart, or in such a position as is natural to valvular disease to occasion it, that said murmur is due to valvular disease. You are all aware of anæmia, and of respiration, as at times the cause of mistakes. The

writer would draw attention more particularly to the possibility of aneurism, or of arterial degeneration with dilatation causing a murmur in the aorta above the valves, or behind the heart, and transmitted through it so as to simulate aortic or mitral valvular disease.

Another sign which the writer has heard laid down as diagnostic as between an aneurism or a tumor pressing on an artery or in the neighborhood of an artery, is the presence of a *double arterial murmur*, this being regarded by some as positive evidence of an aneurism. The writer has paid careful attention to this matter, and has found it fail so often that he regards the proposition as utterly untenable. Another limitation is also necessary in the consideration of double arterial murmur, which has likewise been the cause of difficulty to a number of physicians. This consists in the presence of *venous purr* in the chest and neighborhood of the aorta. In this latter place it is more deceptive than when found in the neck, though even in that situation, especially in men, the writer has found it mistaken for an aneurismal murmur.

A sign which any physician on first impression would be liable to misinterpret is the *severe dyspnoea* which at times accompanies Bright's disease. Should one encounter a patient with severe subjective and objective dyspnoea, having at the same time a considerable degree of cyanosis, he would be liable, nay almost certain, to say that such patient had some difficulty with the lungs or air passages primarily or secondary to cardiac trouble. Yet in such condition, independent of the effect of externally received poison, we meet an important limitation, one which is not sufficiently familiar to many physicians. This constitutes the dyspnoea of Bright's disease, or, as some say, the nervous dyspnoea of Bright's disease, asthma of Bright's disease.

The writer will close the paper by drawing attention to two signs upon which it is necessary to place certain limitations. The first is the presence of *albumen in the urine*. That this may occur from other causes than Bright's disease is probably familiar to all, and that it can be formed in the urine of apparently healthy individuals has been emphasized of late by several observers.

So also *casts*, especially the hyaline, may be present in the urine for a long time without thereby proving a serious lesion of the kidneys. It is possible that casts may, under certain conditions, form in normal kidneys.

DISEASES OF THE NERVOUS SYSTEM.

ON THE VALUE OF OPHTHALMOSCOPIC EXAMINATIONS IN DISEASES OF THE NERVOUS SYSTEM.

By HENRY G. CORNWELL, M. D., Prof. of Ophthalmol and Otol., Starling Med. Coll., Columbus, O.

From the *Medical Record*, June 7, 1884:—Although ophthalmoscopy furnishes us an important aid in the diagnosis of diseases of the nervous system, oftentimes very grave conditions affecting one of its divisions exist without the optic nerves or retina revealing evidences of such affections, and especially does this apply to the first stages of these diseases. As a rule, it may be said that in the fundus of the eye, sooner or later, changes are observed with the ophthalmoscope in the course of serious diseases of the cerebro-spinal or sympathetic nervous systems. Oftentimes the ophthalmoscopic evidences are the first exhibited on the part of the eye, the sight, etc., being undisturbed, and not infrequently they are among the first of a train of symptoms observed in the course of one of this class of diseases. The importance of a careful ophthalmoscopic examination in such cases manifestly cannot be over-estimated, but the absence of changes in the fundus of the eye must not be taken as an important factor affecting the diagnosis of disease in some part of the brain, spinal cord, etc.

As a rule, however, to which there are many exceptions, it may be safely said that the changes in the optic nerves or retina, visible with the ophthalm-

moscope do not, *per se*, furnish sufficient evidence of the form of disease elsewhere in the nervous system to establish a diagnosis, *e. g.*, optic neuritis is frequently seen in cerebral meningitis, simple and tubercular, acute and chronic, in pachy-meningitis, in inflammation of the brain substance, etc. That form of optic neuritis attended with swelling, known as "choked disk," is not a pathognomonic sign of brain tumor, although in the great majority of such cases we do observe it; but "choked disk" is also observed in connection with abscesses, blood-clots, etc., in the brain. No exception can be made in the case of the different forms of insanity.

Further, although the ophthalmoscope may reveal a disease of the brain, and also enable us with a degree of positiveness to determine its character, its location is not thereby indicated, *e. g.*, a tumor in any part of the cerebrum or cerebellum, in the cortex of either the right of left lobes, the pons, etc., or a syphilitic gumma at the base of the brain—in short, a tumor anywhere within the cranial cavity may give rise to "choked disk," but the ophthalmoscopic appearances in the main are identical, and moreover, both nerves are inflamed to the same degree. Perhaps one exception can be made in the case of small tumors pressing upon the chiasm and producing together with other paralytic disturbances, primary or pressure-atrophy of the optic nerves. From what has been said we may conclude:

1. That, as a rule, the ophthalmoscope reveals evidences of the more grave diseases of the nervous system at some period during their progress.
2. That the ophthalmoscope does *not* to a certainty enable us to determine the exact character of the disease present.
3. That the ophthalmoscope does not enable us to locate the disease.

A CASE OF MYXEDEMA, WITH AUTOPSY.

By E. G. WEST, M.D., of Boston.

In the *Proceedings of the Suffolk District Med. Soc.*, published July 17, 1884, Dr. West reports a case in which all of the characteristic signs of the disease were present. Indeed, the description of Dr. Drewitt's case would correspond to my own almost exactly, as did also that of Dr. James Allan and Dr. Edes's first case: They were all women; the duration of the disease; the mental strain, shock, or hardship; the rapid growth from slight to large, fleshy women; slow, languid motion; fear in going about alone; the even disposition, never irritable; chilliness even in summer; absence of perspiration; partial loss of taste, sight, and hearing; the round, fat face; the swollen, translucent, wax-like skin; the broad nose, thick, coarse, purple lips; the dusky, reddish-purple cheeks; the eyelids pendulous and transparent; the tongue pale, swollen, too large for the mouth; the abdomen enlarged, as if with fat, nowhere pitting on pressure; the universal swelling; the skin of extremities rough, hard, and scaly; no disease of the lungs, heart, liver, or kidneys; temperature lower than normal, 95° F.; urine of low specific gravity, and diminished excretion of solids; no albumen nor sugar. In addition to these, my patient, among other things, showed great liability to catching cold, difficulty in swallowing, stiffness of the jaws, sleepiness, and the "Cheyne-Stokes" respiration.

The immediate cause of death was evidently suffocation, and an accident.

Professor Ord describes the disease as seated in the connective tissues of the body, this being swollen and jelly-like and oedematous with mucin; death is caused by the patient being smothered in his own connective tissue.

There seems also to be a curious resemblance between myxœdema and cachexia strumipriva of Kocher, of Berne, who points out that almost a similar development of symptoms takes place when the thyroid gland has been totally removed.

The post mortem examination was made by Drs. Fitz and Whitney. Rigor mortis present; interior of the body warm.

Skin everywhere unusually pale. Face and upper part of the neck swollen, as if oedematous, but not pitting on pressure. Lips of a pale blue tint. Legs slightly oedematous, pitting on pressure; a moderate quantity of serous fluid escaped from a cut through the skin.

Examination of the brain presented nothing abnormal.

Section through the parietes of the abdomen and thorax showed abundant subcutaneous fat tissue. The voluntary muscles wherever examined were remarkably pale.

The pericardium contained about two ounces of pale yellow fluid. The valves and cavities of the heart showed nothing abnormal. The muscular substance was of a pale gray color and without microscopic evidence of any degenerative change.

The organs of the mouth and neck were removed subcutaneously. The tongue was symmetrically increased in size, perhaps one half. With the exception of marked pallor of the muscle nothing abnormal was observed on section. Examination of the hardened tongue showed frequent pigmentation of the apices of the papillæ. The œsophagus presented no abnormal appearances.

Larynx small. True and false cords swollen, elastic; glottis narrowed. Section through the swollen mucous membrane showed a homogeneous, glistening, translucent surface, and the swollen tissue did not shrink in the course of twenty-four hours.

Microscopic examination gave evidence of an occasional fatty degeneration of the fibres of the thyro-arytenoid muscle. The sub-mucous tissue of the tongue and larynx gave the reaction of mucin.

The thyroid body was so injured in the removal of the cervical organs that an accurate determination of its size could not be made. Otherwise its appearances were not abnormal.

Spleen of normal size, firm, dark red. Details of structure distinct.

Kidneys firm, deeply injected. The surface of the lower portion of the right kidney showed several superficial scars. The structure of the kidneys in general presented nothing abnormal on microscopical examination. Bladder normal.

Uterus nearly doubled in size; flaccid in region of the internal os. Ovaries large, with numerous dropsical follicles.

Liver large, deeply injected; nothing abnormal observed on section or with the microscope. Pancreas normal.

Stomach empty; its wall presented no abnormal appearances.

THE TREATMENT OF SCIATICA BY THE STRONG GALVANIC CURRENT.

By V. P. GIBNEY, M.D., Prof. Orthopedic Surg. in the N. Y. Polyclinic.

From the *Medical Record*, June 7, 1884:—If my own preference for galvanism stands out conspicuously, it is because I have been fortunate enough to ensure permanent relief to the greatest number of sufferers by this one agent, and because I have been able to bring about that relief in the shortest space of time. Next to galvanism the thermo-cautery has served me best. Fowler's solution of arsenic has yielded an occasionally brilliant result. The hot-water douche, the faradic current, and the static electrical machine are all familiar to me as agents that sometimes afford prompt and permanent relief.

Given a case of uncomplicated sciatica, acute or chronic, the treatment by the strong current, I am convinced, by clinical observation, will effect a cure in a short time. I am not referring specially to acute cases, but I have in mind those of long duration wherein the exacerbations are frequent and very severe. The intermissions, we all know, are often marked by almost complete relief from suffering of any kind, while in many instances the pain is constant during the waking hours. There is always a dull, heavy pain, aggravated by exertion, by temporary excitement, and by exposure. During the exacerbations the pain may be excruciating. Sciatica which is symptomatic can often be recognized by a careful examination.

I wish, before going into the details of the treatment, to reaffirm that when rheumatism unquestionably stands in a causative relationship, the *galvanic current*, in my experience, *only aggravates the pain*, while the faradic or the static current will give decided relief.

The kind of cell that I have employed and still employ is the Leclanché cell, and I am forced to the conviction that the current from these elements is *less painful*, and exercises a more soothing influence on the nerve than that from any cell with which I am acquainted. Not that there is no pain—far from it—but it is an endurable pain, and so mild compared with the suffering induced by the neuralgia that it is borne with a kind of satisfaction. The idea that a Leclanché battery must be expensive prevents its general use.

The skin against which the sponges have been pressing is quite red, and occasionally presents a few small vesicles. The patient gets up and begins to move the affected limb, finding to his delight that he can move it about with much greater ease.

I go on with the application daily for a week or ten days, finding my patient steadily improving, the paroxysms reduced to a minimum, and even when they do appear their force is insignificant. My aim in treatment is the same that I would aim to in treating a case of epilepsy, viz., break up the paroxysms (fits). I usually am able to do this effectually in about a fortnight, and then I discharge the patient. Sometimes the treatment will extend over a period of six or eight weeks, but this is the exception, and generally argues for an error in the diagnosis or a faulty mode of applying the electricity.

To sum up, then: 1st. A differential diagnosis should be made between a sciatica depending on a rheumatic diathesis and one of purely idiopathic origin. The former will yield to faradism or static electricity, and will be aggravated by galvanism. The latter will be relieved by galvanism and aggravated by faradism. 2d. Daily applications of from ten to fifteen minutes each, care being taken to include the nerve in the current. 3d. The Leclanché elements give the best result. 4th. If no marked relief be obtained after a half-dozen applications, the diagnosis had better be carefully reviewed.

DISEASES OF THE ORGANS OF RESPIRATION.

CONTAGIOUSNESS OF PHTHISIS.

By H. W. WEBB, M.D., Philadelphia, Pa.

From the proceedings of the *Philadelphia County Med. Soc.*, June 11, 1894:—The germ theory of disease is by no means a new theory. One of its earliest advocates was Athanasius Kircher, a learned German Jesuit, who lived in the early part of the seventeenth century; and about the same time lived Robert Boyle, an eminent Irish philosopher, who believed in the truth of this theory. The renowned Linnæus, the father of botany, was not only an ardent investigator of its claims, but published several memoirs in its support. In the latter part of the last century it had such supporters as Sir John Pringle and Dr. Wm. Farr, and in the early part of the present century it had such advocates as Sir Henry Holland, Schonlein, Cagniard de la Tour, Schultze and many others.

To the illustrious Pasteur, however, belongs the distinction of having done more than any of his predecessors to develop this intensely interesting and important subject, and of presenting its truths in such a way that they have become of immense practical use to mankind.

But two years ago the medical profession was startled by the announcement made by Robert Koch, of Berlin, that, "Tuberculosis is a specific infectious disease, caused by a specific micro-organism, the bacillus tuberculosis, which constitutes, in fact, the tubercle virus."

The work of Dr. Formad, of this city, as well as the work of all other investigators in this field of research, has seemed to confirm the statements of Prof. Koch.

In my paper this evening, I propose to limit myself to answering the affirmative of a question of great practical importance propounded by Dr.

Formad in his recent paper, namely: "Is Consumption Contagious?" Dr. Formad is disposed to answer it in the negative and offers to you the names of a number of eminent physicians who apparently lend strength to his doubts concerning its contagiousness. For a number of years I have carefully studied this disease, and as a result of my observations I am firmly convinced that it is contagious. Indeed, the contagious character of the disease is generally believed in, and is taught by the most able and experienced clinicians of our day.

When a disease is unusually prevalent, it is very natural to suppose that it may be due to contagion or infection. Think, for a moment, of the ravages from tubercular phthisis. It exists in all climates; it affects all classes of people; it respects neither age nor sex. It claims about twenty per cent. of the death-rate of the civilized world. The mortuary lists of our city show a percentage in its favor amounting to about fifteen and a half, and the native population of those latitudes most frequented by consumptives succumb to this dire disorder as frequently as people do elsewhere, except, perhaps, Colorado. Is this to be accounted for by heredity or pre-existing lung trouble? If the disease was due to inheritance alone it would have become obliterated generations ago by a species of natural extinction, but the disease is increasing in a greater ratio than the increase of population, which shows that the disease *must be acquired afresh*.

Dr. Formad, in his valuable paper, makes the statement that, "According to the observations of the most prominent clinicians who have paid special attention to this matter, there is not a single authenticated case of tuberculosis as a result of contagion on record." This assertion is not tenable, since cases are recorded by C. B. Coventry, S. G. Morton, Daniel Drake, Tauchard, H. G. Bowditch, Vialettes, Beregeret, Hardy, Seux, Condie, L. Tait, Stevens, Bernard, Chamontin, Herman Weber, Flint, Sr., Holden, Reich, Da Costa, Booth, Bryhn, and many others. Is this not sufficient evidence that such cases are recorded? The fact that some of these names are better known than others, does not militate against the honesty and care exercised by the less distinguished observers and their deductions, which are justly entitled to a fair consideration. Obscurity does not, by any means, imply ignorance, lack of ability and keen perception.

Dr. Formad also asserts that, "Among scores of experienced men who deny thus the contagiousness of tuberculosis, it is sufficient to mention the names of Virchow, Recklinghausen and Stricker, in Germany; Gull, William Watson, Paget, Humphrey and Richardson, in England; Bennett, in France, Hiram Corson and Trail Green in our midst—all men of close observation, with ripe experience extending over from thirty to fifty years." I also take exception to this statement, for Drs. Corson, Bennett, and probably many others mentioned in Dr. Formad's list, if heard from to-day, would not subscribe to this declaration, which finds fewer supporters than one would imagine to be the case. Some time ago I received a letter from Dr. Corson, in which he said: "Long since I advised my patrons not to have young daughters who were compelled to wait on a consumptive mother, sleeping in the same room with the patient." This certainly shows that while Dr. Corson may not be a thorough convert to the contagion theory yet he thinks it prudent to resort to preventive measures, by securing as much separation as possible of the well from the phthisical individual. And Dr. Bennet, who is also quoted by Dr. Formad, records the following typical case of contagion in his work:

"A strong, healthy, well-made husband, age 27, with no hereditary or constitutional taint or weakness, came over from Australia—a four months' journey—in the same cabin as his wife, who was in the last stage of suppurative phthisis. She died soon after her arrival in England, and he came to Mentone that winter a confirmed consumptive, dying himself subsequently. He was perfectly well when he stepped on board the vessel at Australia; but in a small, confined cabin breathed for months an atmosphere loaded with pus particles thrown out of the suppurating cavities of his wife's lung, possibly to his destruction."

After referring to the inoculating experiments of Buhl, at Munich, he makes the following statement: "But in the face of the results that these researches have brought to light, *it seems to me impossible to deny that it may be communicated to the healthy by breathing constantly air saturated with the purulent secretions of advanced phthisis.*" This is an all-powerful argument (I am still quoting Bennet) for the free ventilation of rooms occupied by the consumptive, for the sake of those who attend them and live with them, as well as for their own. In a confined atmosphere they probably poison themselves by their own fetid breath, and extend disease to the healthy regions of the lungs." Can this be used to confirm the belief of Dr. Bennet in the non-contagiousness of phthisis, or is it evidence in support of the position I take? This is but one of many similar cases quoted by various authors, who are scarcely willing to commit themselves while the evidence is so striking, that they, like Dr. Bennet, feel constrained to express the possibility of a contagious element in their causation.

After referring to cases reported by Solis-Cohen of Philadelphia, Mears of Monterey, Mexico, and one of his own, to illustrate the contagiousness of phthisis, the writer continues:—

I may be permitted, in view of the few eminent names offered by Dr. Formad in support of his theory, to mention the names of a number of men of equal practical experience in medicine, who have recorded their belief in the contagiousness of the disease: Aristotle, Galen, Riveris, R. Morton, Baume, Cullen, Heberden, Darwin, Coventry, S. G. Morton, Bright and Addison, Dunglison, Andral, Drake, Sir T. Watson, Copeland, Dickson, W. Budd, L. Tait, Walshe, Madden, de Mussy, H. Weber, Holden, Da Costa, Rühl of Bonn, Lichtheim, Klebs, Bollinger, Flint, and many others could be mentioned.

Dr. Formad lays great stress upon the fact that the medical officers and attachés of the Brompton Hospital have not contracted phthisis. This would be the last place in the world to look for the disease as the result of contagion, for every one knows who has visited that hospital, that hygiene and regimen are most scrupulously carried out to the highest point of excellence known, the nurses and other attachés being on duty only a portion of the twenty-four hours, and when on duty are not constantly in the wards. Compare this with the manner in which patients are cared for in private practice.

As a rule, the nursing of the phthisical in private practice is unskilful, and the circumstances under which the nurses perform their office, render them more liable to fall victims to the disease. Cases of phthisis due to contagion have, nevertheless, occurred at Brompton Hospital, for Walshe makes the following statements in regard to his assistants:—

"Curiously enough, of the first three clinical assistants I had at Brompton, two died of phthisis, and the third left the establishment with slight hæmoptysis, cough and chest uneasiness. The latter is now (1871), in perfect physical condition, one of the former had clearly been affected before he came to the hospital, the other was a model of sturdy health when he took the office."

He says further:—"* * * I must confess my belief in the reality of such transmissibility has of late years been strengthened. I have met with so many examples of the kind, that 'coincidence' becomes itself an explanation difficult of acceptance. I have besides, in three instances, seen a robust husband become distinctly and actively phthisical, as shown by general and local symptoms and physical signs, and on the death of his phthisical wife, whom he had closely tended, fall into the retrogressive stage of the disease, and ultimately practically recover."

Hereditary influence in producing the disease is not as great as many believe, and all efforts have failed to prove, by statistics, the existence in a majority of the phthisical of an unfavorable tubercular family record. Walshe says:—"The final conclusion flowing from the analysis of the family history of 446 persons is, *that phthisis in the adult hospital population of this country is to a slight amount only a disease demonstrably derived from parents.*" "Of 374 cases occurring in old women at the Salpêtrière Hospital, reported by Piorry, 78 died without presenting any traces of tubercle, although their

parents died from that disease." Dr. Cotton, who analyzed 1,000 cases at Brompton Hospital, found only 365 cases in which hereditary taint could be proved; Scott Allison's observations, at the same institution, show, in 608 cases, a hereditary influence in but 19. Walshe concludes, after most careful investigation, that not over 26 per cent. can be traced to hereditary taint. How then are we to explain the cause in the remaining, we will say, 60 per cent.? Are they to be traced to pneumonias, pleurisies or kindred diseases? Or are we to conclude that there is a *specific poison* to which they may be exposed which produces this disease? I think there is, in fact there must be such a specific poison.

It is impossible to comprehend how a disease, specific in its character, and definite in its course can be transmitted from parent to child; how the germ comprising the complicated organism of man could develop from the microcosm into a highly complex creature, carrying with it the elements of destruction as a part and parcel of its structure. Such teaching is opposed to all known biological facts, and it seems that writers have fallen into the fashionable professional rut in searching for the etiology of many diseases, and in none more deeply than ascribing hereditary transmission, when in reality they should say an hereditary predisposition to certain disease.

There are a number of authorities who hold the opinion that phthisis is transmitted from parent to offspring, and among the number is Sir Wm. Jenner who states—"That tuberculosis is transmitted from parent to child, is one of the established facts in medicine." This is absurd. If the disease is transmitted why does it remain latent for so many years? There is no such thing as the direct transmission of a tubercular virus from parent to offspring; this has been shown by such pathologists as Guizot, who, "In four hundred post-mortem examinations of the bodies of new-born infants, failed to find a single deposit of tubercle, and Gluge asserts that there is no born tubercle." Tuberculosis to-day is the same, and manifests itself in the same manner that it did centuries ago. It reveals the same pathological appearances in one case as in another, and maintains its specific character under all circumstances. How then is it possible to harmonize known facts with the doctrine of hereditary transmission, when diseased parents and the east wind are equally effective in producing the same specific result? That constitutional peculiarities are not pathological, needs no argument; and therefore our faith in their transmission need not be put upon the stretch in acquiescing in this belief. Nor is it to be denied that constitutional peculiarity may be acquired and still leave the body in a physiological condition.

This peculiar condition of various parts of the animal body, which offers a suitable soil to disease-producing germs is familiarly known in medicine as *predisposition*. It is that which is transmitted from parent to child—the predisposition to certain diseases, and not the disease itself. A tuberculous parent may transmit this soil, this habit of body, this *predisposition*, to his or her offspring, but cannot under any circumstances at the same time transmit the seed in a dormant state already planted in that soil. Dissections, as already stated, have not revealed tubercles in the new-born. They may be born with many physical imperfections but never with any trace of tuberculosis. The individual must be subjected to disturbing extrinsic causes before there are any evidences of tuberculosis, and when such manifestations do occur, they are of a peculiar and constant kind. One case of tuberculosis is as much like another as one case of small-pox is like another of that disease.

The predisposition is not only inherited, but is also acquired by the offspring of healthy parents; thus parents of non-phthisical children may themselves acquire the disease under conditions favorable to its development. It is not contended by those who believe in and know the fact of the contagiousness of phthisis, that the disease is thus contracted as frequently as other infectious or contagious diseases are acquired; but, I am free to say, however, that there is far more danger to be dreaded from nursing the phthisical in private practice, than there is from nursing cases of typhoid fever. In the latter disease, the "*materies morbi*" resides in the excreta, and by cleanliness the infectious element is promptly removed and the danger lessened; this is not the case in phthisis, for in that disease the "*material cause*" resides

in the effete matter constantly being thrown off from the lungs of the stricken individual, especially in the advanced stage of the disease. This has been proved by Ransom, who found the bacillus tuberculosis in the air of a room containing several advanced cases of phthisis. Dr. R. Charnley Smith, detected them in a respirator worn by a phthisical patient, and Dr. C. T. Williams, by an ingenious method, has found the bacillus in fair abundance in the extracting flues at Brompton Hospital. The tubercular bacillus is characteristic, and can readily be discriminated from all bacilli. It has been found in all the tubercular lesions of the organs and tissues of the body of the phthisical, including, of course, the osseous system and its medullary substance. It has also been found in all the secretions and excretions of organs similarly affected.

PULMONARY LESIONS PRODUCED BY INHALATION OF PHTHISICAL SPUTUM AND OTHER ORGANIC SUBSTANCES.

From an editorial in the *Med. News*, Aug. 9, 1884:—In Virchow's *Archiv.* for June, 1884, Dr. W. Warguin, of St. Petersburg, publishes his investigations in this line of experimental research. After reviewing the work of Tappeiner, Klebs, Bertheau, Schottelius and others, he concluded that the tubercular nature of the primary lesions in the lungs of animals thus experimented on, was by no means clearly established by their experiments.

He regards the process as a lobular pneumonia, which in many respects resembles the desquamative pneumonia of Buhl. Etiologically, it is, however, to be referred to the category of pneumonia due to foreign bodies. He found that the inflammatory process which begins in the bronchioles, only secondarily affects the alveoli. The lung affection tended to complete restoration of the lung tissues when the animals were placed under favorable hygienic conditions. Instead of destruction of the affected portions of the lung, with the formation of cavities, as he expected, he was surprised to find in two instances upon examination of dogs killed after six months, normal lungs. Koch's discovery of the tubercle bacillus, which was announced as the investigations of Dr. Warguin were completed, appeared to establish facts wholly at variance with these results.

How could the fresh sputum of phthisical patients containing bacilli and the disinfected sputum, give rise to the same results as cheese and wheat flour? The only reply to this question lies in the assumption that even the bacilli of Koch are not specific. Warguin does not hesitate to assert to-day that Koch's discovery requires much further corroboration; that it has thus far been worked out in too superficial a way for so important a question; and that it contains in itself much that is problematical. Without denying the parasitic nature of the infectious diseases, he insists that many things must be made clear before the etiology of tuberculosis will become so simple a matter as the discovery of the tubercle bacillus of Koch would appear to make it; in other words, that the doctrine of Koch as to the cause of tuberculosis calls forth a great number of questions which are but imperfectly or not at all answered by that doctrine in its present phase.

It must be said of Koch's results that the masses described present many of the characters of caseous broncho-pneumonia, or desquamative pneumonia, and when we remember how entirely Koch's diagnosis of tubercle is based upon the presence of the bacillus, rather than upon any other anatomical criterion, while in Warguin's observations, made for the most part before those of Koch, the diagnosis was based upon anatomical characters which, until Koch's discoveries, were considered distinctive, we cannot but think that herein may lie the reason of the difference noted. Would Koch and his followers regard the nodules of broncho-pneumonia in Warguin's dogs as tubercles? Here is an important point to be settled before the true value of Warguin's, and even of Koch's, experiments can be estimated. Observers must agree upon an anatomical definition of tubercle.

THE BACILLUS THEORY OF TUBERCULOSIS.

From the *Proceedings of the Philadelphia County Med. Soc.*, May 21, 1884, and published June 14, 1884:—Dr. Shakespeare, discussing Dr. Formad's paper on "Tuberculosis," said: On the occasion of the presentation of his first paper, Dr. Formad had undertaken to demonstrate this reputed anatomical peculiarity by the exhibition, under the microscope, of a number of anatomical preparations. At that time Dr. Shakespeare regarded the demonstration as far from satisfactory or conclusive. In the first place, no single section showed lymph-spaces. In the second place, the method of preparation followed (that for ordinary histological examination—hardening in alcohol, cutting thin sections, staining these with carmine, mounting them for examination in Canada balsam) naturally was not capable of demonstrating lymph-spaces; not one silver or gold preparation was exhibited. It was true that some of the sections under the microscope showed a cellular hyperplasia of the connective tissue—an appearance by no means new to the scientific world. And this was the sole evidence presented in support of a reputed discovery concerning an important anatomical peculiarity of the lymph-spaces of so-called scrofulous animals, upon which an exclusive theory of the ætiology of tuberculosis had been erected by the author and claimed to be demonstrated.

Recognising the importance of that reputed discovery, this learned society had at once appointed a committee, consisting of its most experienced microscopists, to examine anatomical preparations which Dr. Formad should lay before it in proof of his announced discovery. Nearly eighteen months had since elapsed, and yet, during all that time, not one preparation had been submitted for examination by that committee.

In the paper at present under discussion, the author had complacently referred for proof of his so-called discovery to the evidence brought forward in his first paper, and supplemented this by *promising* the future publication of corroborative observations by some independent investigators. In view of the foregoing facts alone, Dr. Shakespeare believed himself sufficiently warranted in contending that the basis of Dr. Formad's opinion concerning the ætiology of tuberculosis had not been established, and also in suggesting that, instead of that opinion being referred to as a "theory" against the theory of Koch, it was scarcely yet entitled to be dignified by the name of *hypothesis*.

Furthermore, even admitting that this *hypothesis* concerning the anatomy of the lymph-spaces of the so-called scrofulous animals were, by the most indisputable evidence, demonstrated beyond the possibility of doubt, it still contained absolutely nothing which by itself either necessarily supported the conclusion of Dr. Formad regarding the non-specificity and non-infectiousness of tuberculosis, or antagonized the claim of Koch for the specific pathogenic qualities of his tubercle bacillus. When, if ever, this hypothesis became a fixed and determined fact, we should be placed only one step nearer a correct understanding of the ætiology of tuberculosis. The reason of that peculiar *predisposition* which certain animals were known to show toward tuberculosis might then have been satisfactorily explained. But what the *exciting cause* of that peculiar malady might be was an entirely different question. Whatever this might be, it could be readily understood that its power of destruction would naturally be favored by such an anatomical peculiarity. Such an "anatomical peculiarity," if it really existed at all, could be easily turned to the support of the bacillus theory. The claim of Koch was not that the tubercle bacillus was endowed with pathogenic qualities which under any and all circumstances were capable of exciting tuberculosis. He himself declared that for the calling forth of these powers a suitable soil and conditions favorable to growth and propagation were essential.

Dr. Shakespeare admitted, as absolutely established, the power of the tubercle bacillus, under favorable conditions, to produce a genuine and virulent form of tuberculosis. He did not admit that it had been positively

demonstrated that no other agent might also be capable of producing the disease; on the other hand, he denied that it had been satisfactorily proved that any other agent was capable of exciting tuberculosis. He believed the proof strong that, under certain favorable conditions, tuberculosis was an infectious disease, and that, at least frequently, the infecting agent was the tubercle bacillus. He saw no valid reason to deny that, under certain favorable conditions, tuberculosis might be conveyed from person to person, and in this sense be termed a contagious disease. Whether or not the tubercle bacillus was regarded as the only agent capable of exciting tuberculosis, its virulence was certainly incomparably greater than that of any other known agent. He therefore failed to appreciate the wisdom or the logic of those who, admitting the virulent qualities and propagative power of the tubercle bacillus, yet, because of a lingering suspicion or even of a decided belief that other agents could produce this terrible disease, would still decline to guard against possible infection or contagion. He regarded the tubercle bacillus, when present, as an infallible sign of the presence and activity of the tuberculous process. On the other hand, its absence, unless after repeated and long-continued searches by competent observers, did not positively warrant a negative conclusion. He therefore saw in the tubercle bacillus an important means of differential diagnosis in obscure cases. From its reported presence in some cases earlier than the physical signs could possibly determine a diagnosis of phthisis, he was inclined to think that it might become of inestimable value to the skillful practitioner to forewarn him of the beginning of that formidable malady which, if curable at all, must be combated from the very onset.

PNEUMONIA AS AN INFECTIOUS DISEASE.

By SAMUEL BRANDEIS, M.D., Louisville, Ky.

From the *Louisville Med. News*, August 9, 1884:—The Congress of Internal Medicine was opened in Berlin on the twenty-first day of April, Prof. Frerich presiding. The first report announced was that of Prof. Turgison, from Tübingen, on Genuine Pneumonia.

"There was a time," (with these words the professor begins), "and it is not very far off, when the doctrine on pneumonia was considered as completed. A certain defined scheme of the same was accepted, which found its expression in accepting, as its cause, *cold*, its essence, *local inflammation*, its termination, *crises*, and *antiphlogos*—especially the *lancet*, its treatment. A change in those views took place only after Laennec and Skoda opened the way for a physical examination of the thoracic organs; Rokitansky developed the anatomic pathological features of the disease, and finally Dietle denounced phlebotomy in its treatment. Gradually, under the watching eyes of close observers, the views on the disease changed. Doubts as to the correctness of the old traditions arose, and voices were heard that in croupous pneumonia we have to deal, not with a local, but with a general disease, which localizes itself in other provinces of the economy, and not in the lungs only. This general ailment, if accepted as correct, leads farther on to the acceptance that genuine pneumonia is an infectious disease. Ten years ago when such expressions were first heard, it was rather difficult to substantiate the same. In the meantime facts were brought to light by experimenting pathologists, which in great measure tend to support the assumption that we have to deal, in this case, with an infectious disease."

Frigus unica pneumonia causa, proclaims the old teaching. What becomes of this dogma in our days? Looking at it without prejudice, and examining every case closely as to this special etiological factor, you will find that the proposition is only true in four per cent. of all cases, while in the great balance it is either doubtful or altogether inadmissible.

Another point is *age*. Here the opinion was held for a long time that pneumonia most frequently selects young and vigorous subjects for its victims. Careful statistical researches demonstrate that three fifths of all cases concern the ages between one and fourteen years. After the forty-fifth year, the rate is double that of between fourteen and forty-five. Notes collected by

Prof. Austin Flint reveals that the feeble and delicate are particularly liable, and not the robust and vigorous.

In the last few years an interesting connection between some meteorological changes and the more or less frequent occurrence of pneumonia was discovered to exist, at least in Tubingen. Whenever the amount of atmospheric precipitation reached above the medium, the development of the disease would be suppressed, while, on the contrary, as soon as it would drop below the medium the latter would be favored. With this, dependence of pneumonia upon the moisture of the soil would be established, a relation which has been recognized to exist with reference to abdominal typhus. Another analogy between the etiology of typhus and pneumonia seems to be found in the fact that hygienic relations seems to exercise a great influence upon their respective development. This is especially the case with reference to the condition of habitation. Here attention is called by Emerich to the discovery of pneumonia cases existing in the staterage of ships. Thereby a considerable insight is gained into the pathogenesis of pneumonia, and the treatment of the same will have to be adjusted accordingly.

The question whether pneumonia is directly transportable from person to person can, so far, not be decided. Prof. Flint, upon the basis of extensive observation, inclines to the opinion that pneumonia is a strictly contagious disease, but can not indorse this assertion unconditionally, as a disease so widely spread should have given more opportunity to observe such direct transmission. In cases where direct transmission seemed to be shown hygienic influences could have been assumed with quite as much propriety.

Is there a *unique* or a multiple pneumonic poison? To the answer to that question we are brought quite near by the advancement in micro-parasitology. It will be easy to demonstrate whether or not the pneumonic course, in its growth and effect upon animals, will in all cases develop the same manifestations, or whether there are any modifications. From the clinical standpoint it is almost natural to accept the unit of morbid complex. Even admitting that the variations from the original type are numerous, don't we find in other infectious diseases epidemics of mild, as well as of severe, character? Cases of typical and others of non-typical nature; cases with complications, and others without?

Analyzing the clinical manifestations carefully, we shall be able to discriminate three groups of symptoms. (1) General infection. (2) Implication of the heart. (3) Embarrassment of respiration. In the last instance the heart always becomes involved, as it is rendered unable to overcome the resistance of the respiratory sphere. These principles are valuable in their application to treatment. The discovery of the pneumonic cocci in the sick-room enhanced materially the importance of proper hygiene, especially in its prophylactic bearing.

Against a disease as formidable as pneumonia, which demands victims in number next to tuberculosis and typhus, a great variety of remedies are proposed and applied. Recently, iodine was suggested as an abortive against the disease. Prof. Turgison is not enabled to confirm the suggestion. Nothing is left us to proceed systematically. In this respect the authorities differ; but so much is certain, that, be the treatment whatever it may, the greatest attention must be directed to the heart. Regarding the antipyretic treatment, the professor considers a moderate abstraction of heat as the best. By various parties this was opposed, and some have even declared all efforts unnecessary. This is decidedly wrong. At least a prophylactic treatment ought never to be omitted; on this will depend whether the patient will be passing through a rapid or tardy convalescence. The venesection, formerly looked upon as a sovereign remedy, is in our days only indicated where it is demanded to break the intensity of the inflammation. [(?) The translator.] But then an early introduction of prophylactic measures may render this proceeding unnecessary.

In conclusion, the professor condenses his essay into the following three theses: (1) Cold or refrigeration is rarely the prime cause of pneumonia. (2) Vigorous persons are not as frequently subjects of pneumonia as the delicate. (3) *Antiphlogos*, in the sense of our predecessors, is to be discarded.

Following hereupon the alternate Dr. Franzel discoursed on the parasitic view of the question, and called especial attention to points of differentiation between the pneumonic coccus proper and that of the sputum septicemic coccus. This gave rise to an animated discussion, in which Friedlander (Berlin), Gerhardt (Wurzburg), Rühl (Bonn), Franzel (Berlin), Rosenstein (Leyden), Baumbler (Freyburg), and Nothnagel (Wien), participated. As the result, we must mention that we have not yet arrived at a point enabling us to deny altogether the influence of cold, there being quite a number of grave cases which could not possibly be explained in any other way. Nor is the unity of the infecting material positively established, in order to give satisfactory understanding as to the origin of a great number of pneumonias following upon chronic diseases.

SUPPURATIVE OR PURULENT PLEURITIS.

By GEORGE T. M'Coy, M. D., Columbus, Ind.

From the *Louisville Med. News*, August 2, 1884:—To Pinel we are indebted for placing this disease among the inflammatory lesions affecting serous membranes, and since his day most writers (and yet not all) have described pleuritis as an independent disease of the pleura. This disease may occur as a primary lesion in persons previously enjoying good health, or it may occur as a secondary affection in the course of other diseases. Its occurrence as a secondary lesion is most frequent in pneumonitis, bronchitis, and pericarditis. It occurs as a complication in diseases that have no connection with the pleura, for example, chronic renal diseases, scarlatina, measles, etc. The extent of pleura implicated varies greatly from a very small circumscribed patch in some cases, to the larger portion of its surface in others. The effusion differs in its nature as well as in its quantity. It also differs in the rapidity with which it is thrown out. It is fibrino-serous, purulent, or hemorrhagic.

In the large majority of primary pleurisies the effusion is probably fibrino-serous. This is not yet a settled point whether effusions retain their primary character until removal, or whether a fibrino-serous effusion may not become purulent.

Flint says that suppurative pleuritis is an inflammation resulting in the formation of pus; that it is dependent on an intrinsic tendency existing at the outset, not an accidental effect, nor is it dependent on the duration of the inflammation, the inflammation tending at once or speedily to suppuration; that the fibrino-serous pleurisy or simple pleurisy remains such indefinitely, without eventuating in the purulent form, each being a distinct variety from the outset. (Princ. and Prac.)

Franzel, on the contrary, claims that primary *purulent* pleuritis must be extremely rare; that in almost every case the effusion is at first fibrino-serous, and subsequently becomes purulent; that while this change may be deferred for some time, it sometimes occurs as early as the first week.

The displacement of organs within the pleura and the amount of compression of the lungs are chiefly due to the amount of the exudation. Yet in cases of old adhesions a less amount of exudation would occasion an equal amount of displacement.

The lungs do not suffer from compression as long as they retain their normal contractility, and are permeable to the air. As long as this permeability remains they float on the surface of the effusion, but when by compression the air is forced out of the lungs they sink into the fluid. The extension of the fluid is limited by adhesions. Especially is this the case at the apices. Occasionally adhesions are found at the inferior boundary of the pleural cavity.

The writer then gives the history of cases, and continues with diagnosis.

The diagnosis of pleuritis can generally be made if we pay very careful attention to the history of the case, and carefully watch its course. Mistakes, however, do occur. It is liable to be confounded with other inflammatory diseases when its symptoms are masked, or when they correspond to the

symptoms of other diseases. When the effusion is small the diagnosis is difficult. When situated in the left side it may be mistaken for pericarditis; may be mistaken for simple hydrothorax. The most common mistake is confounding it with pneumonia. Hospital autopsies show that this mistake is frequently made. A professor of pathology in one of our prominent colleges once said to the writer that the mistaking of one of these lesions for the other more frequently occurred than almost any other mistake in the practice of medicine.

Careful auscultation with suspended respiration will generally decide between a pleuritis and pericarditis with effusion. Hydrothorax develops slowly, not attended with fever, generally double, evidences of compression occur late in the disease, is accompanied by general dropsy, and we have also chronic renal and cardiac diseases.

From croupous pneumonia the diagnosis is not so easy, the two diseases often existing at the same time. The crepitant r le and rusty sputum of the one, and the friction-sound and stitch in the side in the other, when well marked are sufficient to discriminate between them. These are not of constant occurrence, therefore we have to rely upon physical signs. The dullness over the chest in pneumonia is not so positive, it usually follows the interlobular fissure, and extends from the fourth costal cartilage to the axilla, position having no effect on this line of dullness. In pleuritis we have absolute dullness, and the boundary is changed by position, unless circumscribed. "In pneumonia we have bronchial breathing, bronchial voice, and increased fremitus. In pleuritis absent respiration, absent voice, and absent fremitus." (Da Costa.)

After making a diagnosis of pleuritic effusion, can we determine its character? Is it fibrino-serous, purulent, or hemorrhagic? Careful attention to the course of the disease is of great assistance in making a diagnosis. When the temperature of a primary acute pleuritis remains for four or five weeks at about the same stage, morning 99 , evening 102-4 , and this intermittency is regular, it is presumable that the pleuritis is purulent. The temperature of the affected side is said to be increased, and a persistence of this, with the foregoing symptoms, and associated with debility, emaciation, edema of the subcutaneous tissues of the dependent parts of the body, connected with long duration of illness, all points out purulent effusion of the chest. The pulse in purulent effusion is 110 to 120, in the simple form 100 or less. Puncture, with an exploring needle or hypodermic, will decide the point, and ought always to be made. If thrust in quickly the patient will not need it much, and when withdrawn the character of the fluid can be determined.

In perforation into the bronchi, or a "paracentesis from necessity," the diagnosis is made from the character of the discharge and the expectoration.

The earlier the operation is performed the more certainly will the lung regain its former elasticity, and such sequels as pleuritis deformans will occur less frequently. We also avoid permanent displacement of organs, and the liability to perforation in unfortunate directions should not be lost sight of.

Removal of a part of the fluid only will stimulate absorption, which before would have been impossible from compression of lymphatic vessels. Nature does not often relieve an empyema in so favorable a manner as in Case II, and the physician who awaits such a favorable termination will often be disappointed. Opening directly into the bronchi, and death by suffocation is not a very unusual occurrence.

I will bring this paper to a close by simply adding the rules laid down by Dr. Anstie for deciding upon an operation: (1.) In all cases of pleurisy, at whatever date, where the fluid is so conspicuous as to fill one pleura and begins to compress the lung of the other side. In such cases there is danger of fatal orthopnea. (2.) In all cases of double pleurisy, when the total fluid may be said to occupy a space equal to half the dimensions of the two pleural cavities. (3.) In all cases of large effusion where there have been fits of orthopnea. (4.) In all cases where the contained fluid can be suspected to be pus an exploratory puncture must be made. If purulent the fluid must be let out. (5.) In all cases where a pleuritic effusion occupying as much as half of one pleural cavity has existed for so long a period as one month and shows no sign of progressive absorption.

DISEASES OF THE ORGANS OF CIRCULATION.

CARDIAC PALPITATION.

By WM. H. DRAPER, M.D., Visiting Phys. to N. Y. Hospital.

From the *Med. and Surg. Reporter*, June 21, 1884:—Cardiac palpitation is a very common disorder, and it is sometimes only a transient symptom, which disappears with the cause, which may be indigestion, great emotion, excitement, anger, grief, or sudden loss; and when the cause, whatever it is, passes away, ordinarily this disturbance of function disappears also. It is not always, however, a transient phenomenon, but it is sometimes a persistent one, and the source of great distress. These cases of persistent palpitation I have observed under a great variety of circumstances. I have noticed that this persistent irregularity of the heart may come from a great nervous shock. For example, I have known it to occur in men who from a condition of affluence had suddenly become paupers; or it may be the result of great grief or a sudden fright. Age will have an influence over the occurrence of this persistent palpitation, and sometimes it is connected with that critical period in a woman's life which is known as the menopause. In fact at the period of menopause you are very apt to have in many women marked disturbances of the circulation, and this manifests itself in irregular action of the heart, and in transient congestions which are evidenced by sudden flushings of the face, dizziness, tinnitus aurium, muscae volitantes, and hallucinations of sight and hearing. These cases are sometimes associated with that particular form of palpitation which was long ago described by Graves and also by Basedow at about the same time, in which you have also a disturbance in the circulation of the thyroid gland, and in the loose connective tissue just behind the eyeballs.

Now, it is a mistake to suppose that this association of symptoms is essential to Graves' disease, and Basedow's disease, for the essential element is the disturbance in the blood and circulation, which is manifested by this extreme frequency and irregularity of the heart. The enlargement of the thyroid gland is a frequent but not a constant symptom, and the same is true of the exophthalmic enlargement. For there may be an irregular action of the heart accompanied by an enlarged thyroid gland, but with no exophthalmos; or there may be exophthalmos and no thyroid enlargement; or both may be absent and the disturbance of the cardiac circulation may be the only evidence of the disease. Or if both thyroid enlargement and exophthalmos have been present, one may disappear for a time, while the other persists.

I have mentioned emotional disturbances and the menopause as the common causes of this condition; but they are not the only ones. It would seem sometimes as if this derangement of the nervous energies which control the circulation occurred in connection with simple anæmia both in men and women. And it also sometimes occurs in connection with organic heart diseases, but that is not essential to its occurrence. But as a result of this increased frequency of the heart's action, you do frequently get a cardiac hypertrophy.

You may ask what is the cause of these disturbances? I answer, that I do not know. It has been thought by some that it is a disease of the sympathetic system; and careful explorations have been made in the sympathetic system of nerves, in order to find out this cause. And experiments have been made by making lesions in the sympathetic nerves, in order to see if these symptoms can thus be reproduced in animals. In a few cases lesions in the cervical sympathetic are said to have been found post-mortem. It seems probable that the lesion is either one of the central nervous system, or of the sympathetic system; for the disease often occurs in purely nervous subjects, and it also is frequently found in women at that period of life when nervous derangements are most apt to occur, the menopause. But exactly what the nature of the lesion is, is not known.

The prognosis in a fair proportion of cases is good. At all events, some get perfectly well. But some get pretty well and then relapse again, and a few do not recover at all.

In the treatment of this disorder, the most important element is rest. Putting the patient to bed is a most useful expedient in all forms of palpitation. You know that in a state of health there is a difference of fifteen or twenty beats a minute between the pulse-rate of a person in the erect and in the reclining posture. And this difference is not due simply to the muscular effort put forth in retaining the erect posture; for this same variation of the pulse with the change of posture has been observed in the case of a man who was strapped to a board in such a way that no muscular effort was required for him to maintain the erect position. It is therefore important in all cases to give the patient the advantages of the recumbent position.

The next important indication for the treatment is to remove the cause of the disturbance. When it occurs as the result of shock, you cannot do anything to remove the cause. But if the cause is connected with the menopause, you may do something here to give relief, by the use of such remedies as will equalize and regulate the circulation. Digitalis is of very great service for this purpose, and Trousseau even went so far as to say that digitalis is a specific for this disease; but this is not quite true. I have sometimes thought that strychnia was of some benefit. In cases with anæmia, iron in combination with digitalis is of great service. But the great point is to keep the patient at rest in the recumbent posture, and to feed him carefully, so as not to aggravate his sufferings by adding indigestion to his other ailments. And then you should give your attention to regulating the circulation and to the administration of nerve tonics and iron, and if possible to the procuring of refreshing sleep. These are the broad principles of treatment, which are sometimes attended with success and sometimes not.

CHRONIC MYOCARDITIS: CARDIAC HYPERTROPHY.

From an Editorial in the *Med. News*, July 5, 1884:—Most writers speak very guardedly upon the subject of idiopathic hypertrophy and dilatation of the heart, but Seitz and others have adduced an abundance of evidence to prove that cases in which the fatal termination is directly due to this form of cardiac disease are of frequent occurrence. The records of the Pathological Institute of Munich show that idiopathic hypertrophy of the heart is of much more common occurrence in that city than elsewhere. The observations of several local pathologists confirm this statement. The figures are not without interest. Spatz found among 638 men no less than 55 affected with so-called myocarditis. Among 433 women, there were 28 cases. Among 290 men between the ages of thirty and sixty years were 41 cases of myocarditis, or 14 per cent. Among 144 women at the same period of life, only 10, or 7 per cent., were affected. Hermann's cases showed among 305 sections, 49 examples of plethora-heart as the cause of death in men, while only 3 occurred in women.

Von Buhl regarded these hypertrophies of the heart without discoverable cause, such as valvular lesion or arterial sclerosis, as the result and product of a chronic myocarditis, which usually ended fatally in consequence of fatty degeneration of the muscle. Under the influence of this teaching, and because the patients, as a rule, enter the hospital and die with symptoms of failure of the heart, this form of hypertrophy came to be generally regarded in Munich as the result of an inflammatory process. Bollinger, finding, in most of the cases, no anatomical evidences of inflammation, and just as seldom fatty degeneration, cannot accept this view, and regards the hypertrophy as simple, or idiopathic. At his suggestion, Schmidbauer undertook, by means of exact observations, to establish the extent of this epidemic of cardiac hypertrophy in Munich upon a statistical basis, and to discover its cause. In 1,000 post-mortem examinations there were 46 cases, 32 men, 14 women, of undoubted idiopathic hypertrophy of the heart, as the cause of death. As an associated condition—not as the cause of death—idiopathic hypertrophy of the heart was found in 33 other cases, 23 men, 10 women. All cases of enlargement of the heart due to lesions of the valves, or disturbances in the pulmonary circulation, or associated with arterial sclerosis, or granular atrophy of the kidneys, were of course excluded. Certain of these cases of

idiopathic hypertrophy of the heart were, perhaps, to be accounted for by prolonged excessive muscular effort and bodily strain. But the greater number, as was determined by carefully worked-out personal investigation, particularly among suicides, were explicable only by *habitual excesses in beer-drinking* in connection with a true plethora, the existence of which has, however, been of late denied by a majority of physiologists and pathologists.

The habitual consumption of beer in excessive quantities tends to hypertrophy by the direct action of alcohol upon the heart, by the enormous amount of fluid introduced into the body, and by the easily assimilated nutritive constituents of the beer itself.

Many individuals addicted to such excesses attain an advanced age notwithstanding cardiac hypertrophy, by reason of constitutional peculiarities, an active open-air life, or an enforced moderation, but the greater number perish after brief illness with symptoms of cardiac failure. At the post-mortem examination are discovered moderate dropsy, pulmonary oedema, brown induration of the lungs, bronchitis, congestion of the lungs, liver, spleen, kidneys, and other organs. Fatty degeneration of the muscular wall of the heart is absent in most of these cases, and death must, in the absence of adequate anatomical lesions, be looked upon as due to paralysis of the cardiac nerves and ganglia.

The condition of such subjects not rarely amounts to a true plethora of the most typical kind, such as is seen among the drivers of beer-wagons and workers in breweries in this country.

These facts constitute an important contribution to the subject of the non-valvular affections of the heart, and are, from their obvious bearings and the favorable circumstances under which they have been studied, of great value in their relations to practical hygiene.

DISEASES OF THE ORGANS OF DIGESTION.

ALIMENTATION OF PATIENTS SUFFERING FROM DYSPHAGIA.

By D. BRAYSON DELAVAN, M.D., of New York, Laryngoscopic Surgeon to the Demilt Dispensary, etc.

From *The Medical News*, June 7, 1884.—The *organic* derangements which most frequently cause dysphagia are: *a.* Tuberculosis; *b.* Cancer; *c.* Syphilis; *d.* Diphtheria; *e.* Tonsilitis; *f.* Parotitis; *g.* Retro-pharyngeal abscess.

The *functional* derangements are: *a.* Spasm of the pharyngeal constrictors; *b.* Paralyses.

The *surgical* conditions are: Operations upon and injuries to—*a.* The soft and hard palate and uvula; *b.* The tonsils; *c.* The pharynx; and, *d.* The larynx.

In all of these conditions, the act of deglutition will produce: (1) Pain, either local or reflex; or, (2) Mechanical or chemical injury to parts already inflamed or ulcerated; or it may cause both.

These, and especially the first, may, not only by interfering with the ingestion of food, but also, by the depressing effect upon the nervous system of frequently recurring shock, result in: (3) Impairment of nutrition.

The general indications to be met would therefore be: (1) The securing of rest, and avoidance of causes which excite pain. (2) Protection of the parts from mechanical or chemical injury. (3) The maintenance of nutrition.

Heretofore, the resources for meeting these indications have been crude, limited, and ineffectual.

The act of deglutition is the immediate cause of dysphagia, and the most rational means for relieving it is to abolish the act. It is proposed to do this by the following methods:

I. When there exist both dysphagia and inability on the part of the stomach to retain food, a most invaluable resource lies in rectal alimentation.

II. When, on the other hand, the condition of the stomach is good, then granting the desirability of alimentation by the natural passages, the indica-

tion is clearly either to remove the obstacle to deglutition or to avoid it. The former is impossible: the latter may, in most instances, be easily accomplished by means of the method, the basis of which is founded upon the stomach-tube.

Unlike the old practice, however, namely, that of inserting a tube of large diameter through the œsophagus and actually into the stomach, the method herein advocated has as its basis the two following principles.

(1) *The employment of a tube of the smallest possible calibre, and, (2) The introduction of this tube, not into the stomach, but merely into the œsophagus and past the point of obstruction, or else past the pharyngeal constrictors.*

By this simple device all of the indications mentioned above will be completely met. (1) Pain is at once done away with and a maximum of rest to the pharynx is secured. (2) Injury is avoided, and (3) Nutrition is maintained.

The apparatus needed for this purpose is exceedingly simple. The most convenient, consists of a receiver in the form of an ordinary conical-bottomed soda-water bottle, in the mouth of which is fixed a tight-fitting India-rubber stopper. In this stopper are two perforations, through each of which passes a glass tube, one short, the other reaching to the bottom of the bottle, so that all of its contents may be exhausted without including any air. To the short tube is attached a Davidson's air-compressor, while the long one is connected with an English flexible woven catheter, of any size from 8 to 18, by means of about a yard of rubber tubing, the continuity of which is interrupted by an inch of glass-tube, after the manner of the tube of the ordinary aspirator.

The size of the catheter should be regulated by the age of the patient and the nature of the liquid to be introduced. It is better not to rely upon the lateral opening in the catheter, but to perforate it at its tip, so that the fluid may pass immediately and unobstructedly downward.

As a general rule, the irritation caused by the passage of the tube increases with its size. The patient's mouth being opened and his tongue protruded, the catheter should be carried to the base of the tongue, the patient told to swallow, and, as he does so, the catheter pushed into the œsophagus, and thence downward as far as may be deemed necessary. The larynx may be avoided with certainty by using the finger as a guide. Before its introduction the tube should be carefully lubricated, for which purpose the white of egg, mucilage, or even milk, are useful. An excellent plan is to allow the patient to swallow slowly, just before the introduction of the catheter, a drachm or two of pretty thick mucilage. Vaseline, glycerine, and oil are unpleasant to the patient, and should on no account be used. In passing the catheter gentleness should be used, and great care taken to avoid, as far as possible, all points of special tenderness.

Of course the passage of the tube will not always prove an easy or a painless operation. A little practice, however, will render it possible in nearly every instance, while the advantages to be gained far outweigh any ordinary objection to the method.

DILATATION OF THE STOMACH.

From an Editorial in the *Med. News*:—At a recent meeting of the Société Médicale des Hôspitaux, M. Bouchard read a communication on the frequent occurrence of dilatation of the stomach and of the consequences of this morbid condition. He has observed two hundred and twenty cases of gastric dilatation, and his statistical researches have proved that thirty per cent. of sickly people are the subjects of this affection. Amongst patients treated for chronic maladies dilatation is found as frequently as sixty per cent. More often this distension is not revealed by any symptom except such as is revealed by physical examination of the organ in question. There are no digestive troubles in about a third of the number of cases. In the majority of cases the sign of dilatation is a "bruit de clapotement," a splashing sound when the gastric region is percussed below the level of a line which joins the navel to the lower border of the last left rib. To have any clinical signifi-

cance, this sign must be observed in the morning when fasting or when the patient has had only a glass of water.

According to M. Bouchard, dilatation is the cause and not the consequence of dyspepsia. Gastric dilatation may lead to numerous troubles, of which the following are the principal: (1) Digestive disturbances, distention, eructations, acidity, fetid breath, constipation, mucous discharges, hemorrhoids. (2) Congestion and swelling of the liver, producing depression of the right kidney, which has been regarded by Bartels as primary. (3) Nervous disorders, consisting in headache, nightmare, migraine, vertigo, weakness of memory, loss of strength, priapism, hallucinations, palpitations, shortness of breath, post-sternal pain, angina pectoris, etc. (4) Alterations in the urine, which may contain urate sediments, sugar, albumen and peptones. (5) Cutaneous eruptions. (6) Bronchitis, coryza, asthmatic attacks. (7) Cardiac lesions, pupura, and nodular rheumatism.

Dilatation of the stomach first hinders the elaboration of the food, thereby provoking unhealthy fermentations and multiplication of the figured elements in the stomach. Products of fermentation of the alimentary bodies are noxious and even, at times, toxic. It is the injurious action of these products on the economy which are the worst pathological consequences of dilatation of the stomach. M. Dujardin-Beaumetz, in discussing this paper, urged wisely that the splashing sound heard on percussion is, perhaps, hardly sufficient to diagnose dilatation.

TREATMENT OF SIMPLE ULCER OF THE STOMACH.

By Prof. DEBOVE, of Paris.

From *The Med. and Surg. Reporter*, July 5, 1884.—The long-recognized and classic treatment of simple ulcer of the stomach consists in submitting the patient to an exclusive milk diet, accompanied by the administration of alkalies, represented by Vichy water, lime water, etc.

This treatment has proven successful in many cases, but frequently fails, or, though well supported in the beginning, induces later on dilatation of the stomach and its attendant evils. (On account of these accidents, Prof. Bouchard has instituted what he calls the "dry diet." The food is taken in small quantities at a time, and very little liquid is allowed.)

In order that an individual may be properly nourished on an exclusively milk diet, the ingestion of large quantities—about four quarts a day—is necessary, and even more is required if the patient leaves his room and leads a more active existence. If the attempt be made at the same time to administer any notable quantity of Vichy or lime water, dilatation of the stomach is inevitable, and this complication alone may cause death.

To obviate these accidents, I formerly proposed the use of a smaller quantity of milk, rendered more nutritive by the addition of milk powder or condensed milk. But when I wished to carry this idea into practice I met with many difficulties, due to the inferior quality of the condensed milk and milk powders as commonly found in commerce. And even under the very best conditions, many patients were not able to long continue this diet. I have also prescribed the concentrated powders of meat; but, notwithstanding their usual facile digestibility, they were always badly tolerated, inducing gastralgic pain, vomiting, and even hæmatemesis.

The ideal treatment in such a case would be to suspend completely for a time the functions of the stomach. But it is not possible to keep such patients fasting at any great length of time, and allmentation by peptonized enemata has failed. Under such circumstances, we have been led to institute a form of treatment, having its basis entirely in theory, but which has given the best practical results in extremely grave cases.

The gastric juice has an acid reaction, and this acidity is absolutely necessary for the exercise of its digestive action, as well in vitro, as in the stomach. "This acid reaction," writes Claude Bernard, "is so characteristic of the gastric juice, that it suffices to change the reaction to deprive it of its physiological properties; so that it might in reality be said that an alkaline

gastric juice is no longer, properly speaking, gastric juice. Whence its results, that if an alkaline reaction is kept up during the sojourn of the aliments in the stomach, they would not be digested, the gastric juice would have no action on them; but, on the other hand, it would not act either on the ulcer, if such exists, and the aliments would pass undigested into the intestine, with an alkaline reaction, that is to say, under the most favorable conditions for intestinal digestion; this digestion alone would furnish sufficient material for the reparation of the tissues."

In four very grave cases of ulcer of the stomach, two having been already treated for a considerable period by the milk diet, with Vichy water, we obtained an immediate cessation of the pain and vomiting, and after two months the condition of the patients was so favorable as to warrant a hope of speedy cure. I will describe in detail the exact course pursued in these cases. During the first few days we washed out the stomach in order to free it from the more or less acid contents, and we do not consider this proceeding at all dangerous. We have not observed that such lavage had any tendency to induce hæmatemesis; and if the stomach-tube used is sufficiently soft, while proper precaution be exercised there is no danger of causing perforation, even if the tube should touch the ulcer itself.

This preliminary lavage of the stomach is not indispensable if there is no dilatation of the stomach, and we generally discontinue it after a few days.

Three meals daily were allowed, and consisted of 25 grammes of concentrated powder of meat given in milk or water, with the addition of 10 grammes of bicarbonate of soda. During the day the patients were allowed to drink a quart of milk with lime water or saccharate of lime. This meal was ordinarily administered through the stomach-tube, for the patients, accustomed to the introduction of the tube, preferred taking it that way on account of the disagreeable taste of the mixture of meat powder and so large a proportion of bicarbonate of soda. But, if desired, the bicarbonate can be administered alone in wafers, five grammes immediately before taking the meat powder, and the remaining five grammes a quarter of an hour later.

Ten grammes of bicarbonate of soda at each repast may seem a very considerable dose, as thirty grammes, or one ounce, is thus taken in the twenty-four hours, and the accidents due to the so-called alkaline cachexia might be dreaded. For my part, I have never observed any accident induced by this treatment, even after it has been continued for months.

FERMENTATION IN THE HUMAN MOUTH:—THE FUNGI OF DENTAL CARIES.

By W. D. MILLER, M.D., Berlin, Germany.

From the *Independent Practitioner*, July, 1884:—The most important feature connected with all these fungi, especially the coccus forms, is that they possess a ferment activity; in other words, they are capable of producing acid out of sugar, or, in the human mouth, out of starch, by the aid of the diastatic action of the saliva. They may consequently all be looked upon as factors in the decay of the teeth.

A question of great importance, is that relating to the possible pathogenic nature of these fungi. We find in the works of Leyden and Jaffé, Haussmann, Bollinger, James Israel, etc., sufficient ground for the statement that "these fungi, in all parts of the human body which they reach, can play the same malignant role as upon the teeth." Gangrene of the lungs, abscesses of the mouth and throat, chronic pyæmia, etc., have by various authors been ascribed to the action of the fungi of the human mouth. Raynaud, Lannelongue, and Pasteur produced what they called *maladie nouvelle* by inoculating rabbits with the saliva of a child bitten by a mad dog. And A. Fraenkel has in a number of cases produced sputum-septicæmia by inoculating rabbits with his own saliva.

We ask ourselves then the question: May not many of our obscure cases of infectious disease which now and then appear after extraction, or other dental operations, and which are, without further examination, attributed to the

unclean instruments or hands of the dentist, be the result of an infection produced by micro-organisms in the patient's own mouth? For the purpose, if possible, of throwing some light upon this question, I have undertaken a series of experiments for determining whether the organisms which are most commonly found in the human mouth possess the power of producing death (by septicæmia or otherwise) by inoculation.

The inoculations have thus far been performed on three rabbits, one rat, and six white mice, and closing I give a very short resumé of the work which I have accomplished:

1. I convinced myself by the examination of some thousands of slides of carious dentine, that micro-organisms were always present, and that they, without any doubt, were the cause of various anatomical changes which were found to take place in the structure of the dentine caries. (Here, of course, the question of priority does not suggest itself; Leber and Rottenstein, as is well known, were the first to give definite expression to this fact.)

2. I proved, at the same time, that the invasion of the micro-organisms was not, in the majority of cases, simultaneous with the softening of the dentine, but that large areas of softened dentine could be found that contained no fungi. I concluded from this that the softening of the dentine went in advance of the invasion of the organisms.

3. I determined by analyses of masses of carious dentine, sufficiently large to give reliable results, that the softening of the dentine is of the nature of a true decalcification. That the decalcification of the outer layers is almost complete, and diminishes in degree as we advance toward the normal dentine. Furthermore, that the same relations maintain in dentine softened in a mixture of saliva and bread, or in weak organic acids; also that in a mass of carious dentine the lime-salts had been removed to a much greater extent than the organic matter.

4. I maintained from the first that the softening of the dentine was produced by acids, for the most part generated in the mouth by fermentation. I had, however, no direct proof of this.

5. I proved that fungi exist in great numbers in the human saliva and in carious dentine, which have the power to produce acid under conditions which are constantly present in the human mouth. I determined this acid, for one of the fungi, at least, to be the ordinary ferment, lactic acid.

6. I produced caries artificially, which under the microscope cannot be distinguished from natural caries, by subjecting sound dentine to the action of these fungi in fermentable solutions.

7. I determined the influence of various antiseptics and filling materials upon the fungi of caries.

8. I isolated various forms of these fungi, and determined *in part* the conditions most favorable to their development, their characteristic reaction upon gelatine, their physiological action, their effect when inoculated into the system of lower animals, and their possible connection with certain obscure diseases generally attributed to the carelessness of the dentist.

DISEASES OF THE URINARY ORGANS.

ALBUMINURIA IN HEALTH.

By GANFAR GRISWOLD, M.D., M.R.C.S., New York.

From the *N. Y. Med. Jour.*, June 21, 1884.—In the last few years much attention has been directed to the study of latent Bright's disease, and it has gradually become the habit of many physicians, and the rule of life insurance companies, to examine the urine of nearly all patients as a matter of routine practice. These investigations have revealed the fact that the albumen may be present in the urine of individuals who consider themselves perfectly well, and have every appearance of being so. Careful observations have shown that in these cases albuminuria may continue for years, or

may be transient, lasting only for days or weeks; in other cases it may be intermittent, appearing at certain times in the day, but being absent during the remainder of the twenty-four hours. The question at once presents itself: Are these cases of albuminuria in health instances of functional disturbance within physiological limits, or instances of organic changes in the kidney structure which only fail to produce constitutional symptoms because they are not sufficiently extensive?

Simple active hyperæmia of the kidneys, without structural change, will not cause albuminuria; the abundant urines which attend hysteria, or follow the ingestion of large quantities of fluid, are never albuminous. Albuminous urine is scanty and high colored when associated with active hyperæmia from turpentine or cantharides; the kidney in such cases presents not only hyperæmia, but also degeneration of the epithelium. It is the latter change which causes the albuminuria. *Passive hyperæmia* involves degeneration of the epithelium as a result of malnutrition by venous blood, the urine becoming scanty as well as albuminous. *Anæmia* causes a similar degeneration of the renal epithelium from malnutrition by blood of poor quality; hence albuminuria often occurs in anæmia, disappearing again as the general health improves. *Certain substances cause albuminuria* in the process of being excreted by the kidneys, probably by involving degeneration of the epithelium. Instances of this are the excretion of biliary principles in jaundice, and the excretion of iodide of potassium when that drug is being taken in large quantities. Under both these circumstances, casts, as well as albumen, are commonly found in the urine. Many other substances cause temporary albuminuria in the process of being eliminated by the kidneys. One more proposition must be stated here, and that is, the possibility of partially digested food-albumen being eliminated by a sound kidney and producing a deposit with heat and nitric acid. All authorities admit that albumen may be present in the urine of health after a meal of eggs, just as glycosuria may follow eating an unusually large quantity of candy. As a result of these considerations it may be stated that degeneration of the renal epithelium, variously caused, and varying as to degree and duration, is the cause of albuminuria in nearly all cases. Variations in the renal circulation do not cause albuminuria, except by first affecting the integrity of the epithelium.

Dr. Griswold then gives a résumé of the literature on the subject of true renal albuminuria occurring in health, from Ultzman, "Wiener Med Presse," 1870; Sir W. Gull, "Lancet," 1878, i, p. 808; Moxon, "Guy's Hosp. Reports," xxiii, 1878, p. 223; Marcacci, "L'Imparziale," 1878; Leube, Virchow's "Archiv," Bd. lxxii, p. 145; Fürbringer, M. P., "Zeitschrift f. klin. Med.," i, p. 346; Leroux, H., "Revue mens. de med." March 1883; Dr. Munn, "N. Y. Med. Record," March 22, 1879; H. Senator, Berlin, 1882, and says:

This short *résumé* of literature bearing upon the subject shows that a large number of excellent authorities are agreed as to the occurrence of albuminuria in health. In nearly all the cases cited no cause could be discovered. In a small minority of cases anæmia at puberty, exercise, cold bathing, eating largely of animal food, and mental strain and anxiety were believed to be efficient causes.

The frequent occurrence of *albuminuria at puberty* has been especially insisted upon by Sir William Gull.

It is held by many authorities that *albumen often appears in the urine of healthy people after violent exercise*, especially when the exercise has been closely followed by a cold bath.

This subject needs the careful study of years to settle the question absolutely, but the evidence at hand certainly shows that in a *vast majority of cases albumen is not found in the urine of healthy men after exercise*. The question, therefore, assumes the following form: If fifty men in apparently good health take the same exercise, and albumen subsequently appears in the urine of one of them, the urine of the rest remaining normal, shall the exceptional case be considered to be one of latent disease, or of variation within physiological limits? In the light of our present knowledge, the theory of

latent disease seems more probable, and life-insurance companies do not hesitate to refuse applicants who suffer from albuminuria after exercise, even though they be otherwise in good health.

All books upon the urine contain the statement that *albumen may be present in the urine of health after a meal of eggs*. The author has made several examinations of the urine of seventeen healthy men, passed after a meal of eggs. The eggs were in some cases raw, and as many as four were eaten at a meal. In none of the seventeen cases was albumen found in the urine.

The authorities quoted in this paper prove that cases are not very rare in which albuminuria occurs without other evidences of disease; and that in such cases the albumen is most apt to be present in urine passed after eating, or after violent exercise. While the presence of good health seems to indicate that such albuminuria may be due to mere functional disturbance of the kidneys, yet it must not be overlooked that the symptoms of Bright's disease are mainly due to *renal inadequacy, and not to the local organic disease*. In disease of the kidneys, as in valvular heart disease, no striking symptoms are present until the organ is overcome and fails to perform its function completely. The possibility of slight renal affections, not sufficient to produce inadequacy in any degree, seems to have been too much ignored. The kidney has been studied too exclusively in connection with grave diseases which endanger life, and become conspicuous by virtue of the uræmic symptoms which attend them.

The author of the paper then reports two cases—one acute and the other chronic—good examples of mild renal affections not disturbing the general health, and tending toward recovery, and concludes his paper as follows: When the possibility of mild cases of renal inflammation or degeneration is considered in connection with the inability of nearly all healthy men to produce in themselves albuminuria by exercise or diet, it seems probable that the so-called albuminuria in health is due rather to some form of kidney disease too slight to produce general symptoms. A man who has albuminuria after exercise may, perhaps, be compared with one who has hæmoptysis under the same circumstances. The latter may not die of phthisis, nor the former of Bright's disease; both may outgrow the tendency, yet, so long as it continues, neither can be looked upon as a thoroughly sound man.

THE USE OF DELICATE TESTS FOR ALBUMEN IN URINE.

By GEORGE B. FOWLER, M.D., Prof. of Physiological Chemistry, New York Polyclinic.

From the *Med. Record*, July 26, 1884.—Whether, in every instance, the presence of albumen in urine, in any proportion, is necessarily the signal for an alarming prognosis, is a question destined to receive much attention in the near future. Yet, whatever be the verdict, I am convinced that albuminuria is not a physiological condition. And, while many apparently healthy people may present this symptom in a given case, we certainly are not yet prepared to say what will be the ultimate result.

The only albuminous derivatives capable of ready transudation are pepsinones; yet, although these are produced in such great quantity in the stomach and intestines during digestion, their loss is prevented by the provision that they must pass through the liver before entering the general circulation. In the liver they are transformed into matters having no tendency to escape.

In order to determine the comparative delicacy of some of the methods, I used the serum of ox-blood, carefully drawn from a firm clot, and mingled it in varying proportions with normal urine. Now, the composition of this serum is as follows: Water, 90 parts; proteids, 8; fats, salines, etc., 2—100 parts.

The proteids consist of two forms of albumen, *serum-albumen* and *para-globulin*, in about equal proportions, and they are together reckoned as albuminous. But the trial solutions have been made with serum and water, in order to know the proportion of *albumen* detected, we must go through with a little calculation based on the proportion of albumen present in the serum.

This has been done, and the results, as given below, are for albumen calculated as dry. I speak of this because most of those who have gone over this ground leave us in the dark whether with any given method (having used serum or white of egg) the percentage detected means the percentage of serum or white of egg respectively, or the actual proportion of albumen present.

As a result of numerous and very careful trials with heat, nitric acid, picric acid, acidulated brine, potassium, ferrocyanide and acetic acid, potassio-mercuric iodide, and other methods, I found the following to be their respective capabilities:

Heat, in neutral solution, fails with .018 of one per cent.; in slightly acid solution, reacts with .018 of one per cent.

Acidulated brine, about same delicacy as heat.

Picric acid, if carefully applied, will detect .008 of one per cent. But being of low specific gravity it is sometimes difficult to employ the contact method with it. Its decided yellow color masks its effects and interferes with its delicacy.

Nitric acid is satisfactory with an .008 of one per cent. solution of albumen, if the contact method is employed. The greater the diameter of the test-tube, and the longer it stands perfectly still, the more marked is the ring of coagulation.

Potassium, ferrocyanide, and acetic acid.—The urine being first made decidedly acid, and then a few drops of the ferrocyanide added, faint clouds of opalescence will be seen in an .008 of one per cent. solution of albumen.

Potassio-mercuric iodide [Formula: Pot. iodid, 8.32 grm.; Hydrarg. bichlorid, 1.35 grm; acid acetic, 20 c.c.; aqua destil. ut. ft., 100 c.c. M.] gives a very manifest reaction with a .004 of one per cent. solution, and, hence, is the most delicate of all.

It should be borne in mind that both picric acid and the potassio-mercuric iodide solution, also precipitate peptones, quinine, morphia, strychnia, and perhaps other alkaloids, and the former may throw down the urates. All of these precipitates, however, completely disappear on heating the solution, thereby enabling us easily to distinguish them from albumen.

These percentages may seem to some very small and not worth detecting; but I contend that, pathologically considered, they are by no means insignificant. Let us look at it practically. Serum contains about eight per cent. of albumen (or proteids perceptible by the foregoing means). We pass about 1,500 c.c. of urine per day, and urinate about six times. That would be about 250 c.c. for each time. Now, 1 c.c. of serum in each of these voidings, or 6 c.c. in the whole, would give us .031 of one per cent. of albumen.

So we see that, although the percentage of albumen may be down among the thousandths, an appreciable quantity of blood-serum is thereby represented. And, to my mind, the leakage of 6 c.c. of serum through the kidneys per day is abnormal, and suggests danger ahead. At any rate it is well to be able to know it, so as to keep a sharp lookout.

HEPATIC ALBUMINURIA.

By C. C. THAYER, M.D., Clifton Springs, N. Y.

From the *Med. Record*, August 2, 1884.—Albuminous urine always signifies a pathological condition. That pathological condition may be either within or without the kidneys; it may be entirely local, or may be general, and even in parts far remote from the kidneys. It may be inflammatory or mechanical, nervous, organic, or functional.

Traces of albumen in the urine are far from being a strange phenomenon. In fact, it is much easier to *discover* albumen in the urine, than accurately to define its pathological condition, or to declare its significance when found.

In the year 1827, when Dr. Richard Bright published his "Medical Reports" on albuminuria, the popular mind naturally drifted, as it was led thereby, to consider albumen in the urine to indicate definite pathological changes in the kidneys; and while we cannot justly say that this distin-

guished physician unequivocally declared that albumen in the urine was an *infallible* sign of renal disease, yet in his enthusiasm he pressed this feature, not too far, but to the exclusion in a great degree of other and equally legitimate phases of the same phenomenon.

As all renal diseases do not produce albuminous urine, so albuminous urine is not, *per se*, an evidence of renal disease. Among the varied pathological conditions outside the kidneys that give rise to albuminuria, my attention has been called of late to two cases, where daily examinations, careful investigations, and varied tests seemed to prove that the albuminuria (in said cases) was not produced by, or dependent on, any pathological changes in the kidneys themselves, but upon some gastric or hepatic disorders. [The histories of the cases were given.]

We may search for the cause of *this* symptom where we look for the cause of their other symptoms. That the albumen is associated with, and dependent upon, hepatic and gastric disorders is incontrovertibly substantiated by the positive relief afforded by the hepatic and gastric treatment employed. This line of reasoning is abundantly established by Prout, Cohnheim, etc. Exactly *how* albuminous urine is produced in these cases is not yet clear, but the fact is authorised by Carpenter, Bennett, Dalton, and others. The same may be said of chyluria and glycosuria. "There are also reasons for believing that albuminous urine may be induced by hepatic derangements, independent of structural disease of the kidneys. I have met with several instances of hepatic colic, but where there was no jaundice, and the paroxysm was followed by a temporary increase of lithates and albuminous urine" (Murchison). Dr. Parkes ("On the Composition of the Urine") thinks, through some failure in the preparation, either by the stomach or liver, crude albumen is introduced into the circulation and excreted by the kidneys. Claude Bernard found that crude albumen injected into the jugular vein produced temporary albuminuria. "It is well known that if two or three raw eggs are eaten at once, albumen makes its appearance in the urine" (Fothergill).

A pertinent question here arises. What is the character of the albumen in hepatic albuminuria? Is it egg albumen (Fothergill)? is it globulin (Lehman)? is it a peptone (Lauder-Brunton)? If it were egg albumen, it could be positively distinguished by the use of ether in the test. If it were globulin, or "latent urine albumen," it could be shown by the use of alcohol in the test, but not by boiling or by nitric acid. If it were peptones, it would not be coagulated by heat or nitric acid in the test.

Traces of albumen in the urine are often unnoticed, because of imperfect examinations.

1. The test-tubes should be perfectly clean, else both the character and appearance of the urine may be changed.

2. The urine should always be rendered slightly acid by the addition of a few drops of dilute acetic acid, as albumen is held in solution in alkaline urine, notwithstanding the application of heat.

3. A few drops only of nitric acid should be used, as an excess of it redissolves albumen. Egg albumen is not redissolved, except in part, by an excess of acid.

4. Latent albumen (Gerhardt) is not discovered by heat or nitric acid, but is precipitated by alcohol.

5. Albuminose in the urine is not coagulated by ether, heat or nitric acid, but only by the metallic salt, and alcohol in excess.

6. Albumen in the urine, first rendered slightly acid, is readily discovered by the addition of a few drops of a solution of potassium ferrocyanide, one of the most delicate of tests.

From the above clinical cases, statistics, and considerations, we draw the following conclusions:

First.—Crude albumen in the circulation may be excreted as such by healthy kidneys.

Second.—Crude albumen in the circulation may arise from a retrograde metamorphosis of albuminoids in the process of digestion and assimilation from liver disease.

Third.—Crude albumen in the circulation may arise from a *luxus consumption* of albuminoids in excess of the capabilities of a *healthy* liver.

Fourth.—Crude albumen in the urine denotes that albuminose, in its hidden course to its legitimate and ultimate end, viz., fat and urea, has escaped its proper destiny as an aborted proteid.

Fifth.—Crude albumen in the circulation denotes not a defective metamorphosis of tissue, for it has never been tissue, but a defective metabolism in tissue construction.

HÆMATURIA AS A SYMPTOM OF DISEASES OF THE GENITO-URINARY ORGANS.

By A. R. DAVIDSON, M. D., Prof. of Med. Chem., Toxicol. and Diseases of the Skin, Niagara University.

From the *Buffalo Med. and Surg. Jour.*, August 1884:—It is by no means a rare thing to find patients voiding bloody urine. Although hæmaturia cannot be regarded as a distinctive disease, still its importance as a symptom, leads me to hope that a consideration of the subject may not be without interest to the members of the association. [The Buffalo Medical and Surgical Association]. Those most familiar with urinalysis will be very willing to acknowledge that it is not always an easy thing to determine from what point in the genito-urinary apparatus, the blood originates.

The term hæmaturia is commonly used to designate any condition in which blood is present in the urine. The name, however, should be restricted to those cases in which blood is present in its entirety, that is, including the red corpuscles. In many cases the absence of these is demonstrable by the microscope, when by the spectroscope and other means we show clearly the presence of the coloring matters of the blood, either in the form of hæmoglobin or hæmatin. The presence of the first is designated by the term hæmoglobinuria, and the second by hæmatinuria. The distinction is important in regard to pathological significance. In hæmaturia a true hemorrhage has occurred in some part of the urinary tract. In hæmoglobinuria, or hæmatinuria, the inference from the absence of blood corpuscles is that a dissolution of them has taken place within the blood vessels and the coloring matter excreted by the kidney. This condition occurs especially with those diseases accompanied by a so-called dissolution of the blood, as scurvy, malignant intermittent fever, putrid typhus, hæmophilia, etc., and it may be observed after the transfusion of a considerable quantity of animal blood into the human organism.

Profuse hemorrhage usually comes from the pelvis of the kidney, the urethra, or the bladder, rarely from the kidneys themselves. The urine is colored red, or dark reddish yellow, and upon standing for some hours may deposit the entire blood, leaving the urine of a normal color. If the urine is ammoniacal there will be a solution of the blood-coloring matter. The reaction is usually neutral, or alkaline, and the specific gravity varying. Albumen is always present from the serum of the blood.

Parenchymatous hemorrhage usually comes from the kidney, and may come from the bladder and the entire urinary tract. The urine is red-brown, often coffee-colored. After standing for some time it deposits a slight sediment, but the supernatant liquid retains its high color, because the blood-coloring matters are partly in solution. The reaction is usually acid and the specific gravity lowered.

Profuse hemorrhage may be an accompaniment of the following conditions: In the urethra—polypoid growths, or vascular tumors, diseases of the prostate. In the bladder—varix, or hemorrhoids, calculus, and catarrhal ulceration of the neck, villous tumors, or papilloma. In the pelvis of the kidney—from cancer and renal calculi.

By the term "profuse hemorrhage" I do not mean you to understand that in all these cases mentioned there is necessarily a large amount of blood in the urine, but rather that the characteristics of the blood present point clearly to a bleeding from a vessel in contra-distinction to the oozing which

takes place in parenchymatous hemorrhage. We are not always able to make this distinction hold, as, for instance, in bleeding from the prostate the blood may be regurgitated back into the bladder, and when voided present all the appearances of parenchymatous hemorrhage. The marked difference in the appearance of the urine, however, as before stated, caused the older practitioners to make the distinction between kidney and bladder hemorrhages simply upon that, and the exceptions are so few that the division is a convenient one even now.

Having, then, a specimen of urine which falls into the class of "profuse hemorrhage," how are we to make our differential diagnosis? If the disease is anterior to the bladder it may usually be demonstrated by causing the patient to void his urine into two glasses. The first contains nearly all the blood, if its origin is in the urethra. The urine will contain blood corpuscles of normal size and no peculiar features. The sound and digital examination of the prostate by the rectum will settle our diagnosis.

If the blood proceeds from the bladder the diagnosis is not so easy. If it arises from bladder hemorrhoids the bleeding may be profuse. An instance occurred in the Hotel Dieu, Paris, in which bleeding was so abundant as to prove fatal. The autopsy revealed the presence of several varices at the neck of the bladder, upon one of which was a large ulcer, from which the bleeding had evidently proceeded. The bladder was healthy in all other respects. The disease is most common in old age, but is sometimes met with in youth. The diagnosis is difficult and sometimes wholly impossible.

Calculus in the bladder is a common cause of hemorrhage, but rarely in sufficient quantity to require treatment. It usually comes on after some violent exercise.

The hæmaturia from catarrhal ulcerations, which occur in the neck of the bladder usually after gonorrhœa, exhibits itself toward the close of micturition, when the sphincter vesicæ begins to contract. The urine will be alkaline, and in the sediment we find, beside blood, pus corpuscles, crystals of ammonia, magnesium, phosphate and bladder epithelium. Villous tumors and papilloma rarely give rise to profuse hemorrhage, unless the cancer has existed for a long time and become ulcerated, or if by any cause there is produced strong muscular contraction of the bladder, the blood vessels may be so violently compressed that the tension in the vessels of the villous tumor may be great enough to rupture them. In this case it is rare that we are able to find necrotic cancer tissue, and we may seek in vain for any indication in the urine to account for the hemorrhage. Villous cancer, however, usually involves the back and under wall of the bladder, so that the thickening, or tumor, may be felt by introducing the finger into the rectum. Papilloma of the bladder, on the contrary, is confined simply to the mucous membrane, and we are unable to find a thickening of the bladder wall or a tumor from rectal investigation.

Severe hemorrhages from the kidneys are very rare. When they do occur, from cancer, or ulcerations produced by renal calculus, the quantity of blood corpuscles present makes it very difficult to find the kidney epithelium, the recognition of which is essential to a diagnosis.

Parenchymatous hemorrhage may come from the kidney and its pelvis, or the bladder, or the entire urinary apparatus, and, as before stated, the urine is of a red-brown or brown-black color. Such a hemorrhage we have in the majority of cases of acute or chronic parenchymatous nephritis; regularly with atheromatous degeneration of the kidney vessels; constantly with renal calculi, though no severe pyelitis may be present, and with cancer of the kidney.

In the differential diagnosis of these hemorrhages microscopic analysis furnishes the greatest aid. If it is an accompaniment of acute or chronic parenchymatous nephritis, it is associated with casts and kidney epithelium, and is only one of a series of indications.

With renal calculi, we find in the sediment, besides blood corpuscles of various sizes and kidney epithelium, jagged crystals of uric acid or calcium oxalate, and usually a more or less severe pyelitis is present. With cancer of the kidney, besides the parenchymatous hemorrhage, we may find carci-

nomatous tissues in the sediment, usually in the form of small masses, aggregations of cells with thick walls or caudate and long spindle-shaped cells.

In locating the origin of the blood flow the blood coagula often give valuable information. If they are soft and of the color and consistence of freshly clotted blood, they must be of very recent formation. Clots which have been in the urinary apparatus for some time are harder and assume a dirty yellow color. If from the bladder, they are usually soft and irregular in form, while from the kidney they are apt to be long and rod-shaped. They are seldom present in parenchymatous hemorrhage, but the so-called blood cylinders and the hemorrhagically-tinged kidney epithelium are characteristics almost always present if it proceeds from the kidney.

There are very exceptional cases in which, even after a careful examination of the fluid from the bladder, we will be unable to entirely satisfy ourselves as to the source of the blood. In such cases we may remove all doubt by collecting the urine as it flows from the ureters. Sir Henry Thompson was, I think, the first to practice and recommend a mode by which this is easily accomplished, as follows: A soft rubber catheter of medium size is passed into the bladder, the patient standing; all of the urine is drawn off and the viscus repeatedly washed out by small injections of warm water. The urine is then permitted to pass, as it will do guttatim, into a test tube or other small vessel, for purposes of examination. The bladder ceases for a time to be a reservoir; it does not expand, but is contracted around the catheter, and the urine percolates from the ureters direct. A specimen can thus be obtained free from all admixture with products of the bladder or urethra, and will often furnish the only data previously wanting to accomplish an exact diagnosis.

HÆMAGLOBINURIA.

There are many obscure cases of hæmaglobinuria, in which it is next to impossible to discover any cause to which the disease might be attributed. At the last German Congress for internal medicine, Dr. H. Schumacher, of Aix-la-Chapelle, drew the attention of the profession to the fact that according to his observations all such cases are caused by syphilis. Notwithstanding the apparent mildness and trivialness of the symptoms, experience had proven to him that the complaint is not only a very grave, but finally invariably, also a fatal one. One case, seen by him in the earliest stage, was subjected to an anti-syphilitic treatment and recovered. But such a favorable result is possible only in the beginning of the disease; later, no remedy will influence the course and prevent the fatal issue of the malady.

This observation of Schumacher coincides with our own. It seems that hæmaglobinuria, if due to syphilis, may be recognized by the following peculiarities. The disease attacks the individual without warning; rarely some slight pain in the back may precede it. There is a total absence of all other symptoms. The most careful examination fails to reveal the least lesion, the least disturbance of general health. It seems to be impossible to elicit any etiological moment. This fact, combined with the healthy appearance of the patient, then the impression which the physician gains that the symptom apparently is without influence on the general system, the absence of fever and of all other signs of disease, are the sure evidences of the syphilitic origin of the complaint. To be sure, the presence of the peculiar dirty-yellowish discoloration of the skin of the forehead, of cicatrices of syphilitic ulcers, or of any other syphilitic manifestations, will as rapidly clear up all mystery, as the admission of the patient of his having suffered from constitutional lues. If not treated specifically in the earliest stages, the hæmaglobinuria will come and go, varying greatly in degree, until some other symptom (depending upon the organ next visibly affected) becomes added to the hæmaglobinuria. But from this moment all hope for the patient is gone. Brain, heart, lungs, or liver, may become next involved. In the later stages, the disease is apt to be mistaken for cancer of the kidneys, and those cases of cancer of that organ, which have apparently been cured by iodide of potassium and mercury, have doubtless been such of syphilitic origin.—*Med. and Surg. Reporter*, July 5, 1884.

SURGERY.

OPERATIONS, APPLIANCES, DRESSINGS, ETC.

ON FAT EMBOLISM.

By ROSWELL PARK, M.D., Prof. of Surg., Med. Dep., Univ. of Buffalo.

From the *N. Y. Med. Jour.*, August 16, 1884.—By fat embolism is meant a plugging of small arteries by minute drops of fluid fat, which, having been set free somewhere in the periphery, are carried into the venous circulation and thence distributed to various parts of the system. Inasmuch as the capillaries of the lungs offer the first lodging-place, fatty embolism of the lungs is that which is oftenest met with, and consequently recognised and studied; but a similar condition of affairs may obtain in the brain, choroid, kidneys, or other parts, provided only that there have been sufficient *vis a tergo* to force the fat globules through the pulmonary capillaries and into the systemic circulation.

Perhaps the first observation on record which deserves mention is one by Müller, who, in 1860, discovered that the choroidal vessels of a certain case were filled with fluid fat which was supposed to have come from an atheromatous aorta.

It is difficult to form an accurate estimate with reference to the frequency of occurrence of fat embolism, but it must occur to a slight extent in nearly every case of fracture and laceration. Numerous observers have shown how uniformly fat embolism of the lungs, at least, happens after extensive compound and multiple fractures.

ÆTIOLOGY.—We may sum up the following, in their order of frequency, as the causes which, in the vast majority of cases, lead to fat embolism: (1) Injuries to bones, of all sorts, especially simple and compound fractures. (2) Lacerations of soft parts, especially of adipose tissues. (3) Surgical operations. (4) Acute periostitis and osteo-myelitis. (5) Rupture of fatty liver. (6) Certain pathological conditions, such as fatty degeneration of thrombi, icterus gravis, and diabetes.

The conditions which, *par excellence*, predispose to fat embolism are: (1) Openings in the walls of the blood-vessels. (2) Presence of fluid fat in the neighborhood of the same. (3) A certain *vis a tergo*, usually pressure of extravasated blood, which tends to force this fat through these openings.

Symptoms.—*General condition:* Debility and malaise, rapidly increasing. Countenance pale, becoming anxious and then distressed, and at last the face is cyanosed, with pupils contracted. Reflex excitability is gradually lost. Patients are usually at first excited, then wildly or quietly delirious, then somnolent, and finally comatose. In rare cases, depending on the amount of cerebral disturbance, vomiting, spasms, or paralysis may precede death.

Respiratory Organs.—The respiration rate gradually increases from the normal up to fifty or even sixty to the minute, breathing becoming stertorous. Dyspnoea, increasing in intensity until it becomes agonising, sometimes marks these cases. Cheyne-Stokes respiration may also be observed in the earlier stages. At the last there may be foam, sometimes bloody, from the mouth, as in oedema pulmonum; or during the course of the symptoms there

may be hæmoptysis. With the stethoscope large bronchial râles are heard, which change until they become tracheal.

Circulatory System.—The pulse is weak, frequent and irregular, fluttering toward the close. The temperature range is by no means constant, its range is typical.

The foregoing constitutes a brief summary of the more important symptoms, few of which are constant and none pathognomic. If, however, along with these, fat or oil globules can be detected floating on the urine, the diagnosis may be easily made; and when the above symptoms are clear and a majority of them evident, and are accompanied by a history of accident or operation, we shall seldom err in diagnosing fat embolism. As a rule, they set in within thirty-six to seventy-two hours after the lesion causing them.

Diagnosis.—In general, the diagnosis is to be made by eliciting a history of violence or of operation, by the sudden and painless onset of the symptoms above given within the average length of time by lack of other and sufficient cause therefor save those furnished by a history of some lesion, by the negative result of ordinary physical examination, and by the absence of paralysis and of all the usual evidences of central lesions of the nervous-system and of valvular disease of the heart. Uræmia, albuminuria, and diabetes can be excluded by examination of the urine, while if oily globules are found upon it they will speak conclusively for fat embolism.

Prognosis.—This must be in proportion to the extent of the injury, the proximity of the lesion to the heart and lungs, and the general condition, age, and physical characteristics of the patient. In extensive lacerations and fractures there are greater possibilities for entrance of fat into the circulation, as well as for constant increase of the amount.

Treatment.—Obviously the proper treatment will be to augment by every judicious means the power of the heart to force the load of fat through the venous and into the arterial system. If this can be done, the fatty matters will probably be emulsified or saponified by the alkalies in the blood.

The more the fractured or injured part is disturbed, the more fat will presumably enter the circulation. Consequently the injured part should be kept absolutely at rest. At all events, immobilization is always indicated as a precautionary measure.

As concerns internal treatment, the most powerful cardiac stimulants are called for—*e.g.*, alcohol, digitalis, strychnine, ether by the mouth or under the skin. In fact, in this as in other respects, treatment must be symptomatic. On purely theoretical grounds, I should be strongly inclined to suggest the administration of oxygen, by inhalations of the gas, as strong as could be well borne.

THE TREATMENT OF COMPOUND FRACTURES, INCLUDING A REPORT OF ONE HUNDRED AND FORTY-FOUR CASES WITHOUT A DEATH FROM SEPTIC INFECTION, AND ONE HUNDRED CASES WITHOUT A DEATH FROM ANY CAUSE.

By FREDERIC S. DENNIS, M.D., Prof. of Surg., Bell. Hosp. Med. Coll., N. Y.

From the *Jour. of the Amer. Med. Ass'n.*, June 21, 1884.—The treatment of compound fractures is a subject of great practical importance. In advocating any special plan of treatment there are several salient points to consider:

First.—The method should be a safe one and proved to be such by the crucial test of experience.

Second.—The method of treatment should yield results, unattended by septic infection, by non-union, by shortening, and by deformity.

Third.—The method should be a simple one, and uncomplicated by any inaccessible splint, or complicated dressing.

That plan of treatment of compound fractures, therefore, which has safety, complete restoration of the injured member, absolute simplicity, and at the same time as slight constitutional disturbance as possible, as its character-

istic features, is a method which would naturally commend itself to the profession.

It will be the aim of this paper to demonstrate by the results of a large number of cases that the treatment of compound fractures is best accomplished by adherence to three well-recognized and established principles. (1) Absolute cleanliness. (2) Immediate fixation. (3) Provision for free drainage when necessary.

The treatment which has been employed for the most part in the cases to be reported is in brief as follows:

The patient having been taken to the operating theatre, is placed upon the table, and if the exigencies of the case demand, an anæsthetic is at once administered. Anæsthesia relaxes the muscles, affords the surgeon an opportunity to explore thoroughly the extent of the injury without inflicting pain. The injured limb is washed with soap and warm water and scrubbed well with a brush: The dirt, debris, and blood are thus removed, and the hair on the extremity is cleanly shaved, and then the limb is irrigated for a few moments with a solution of carbolic acid (140) or with a solution of corrosive sublimate (1-2,000) or with any other well-known disinfectant. Gentle traction is made upon the extremity, while, at the same time counter-extension is employed with a view to bringing the broken fragments into coaptation. If the bones protrude through the wound and cannot be reduced without the exercise of too much violence, the projecting end is removed by a chain-saw. It has been my custom when the protruding bones cannot be reduced without the exercise of undue violence, to divide subcutaneously all tendons and thus overcome all resisting forces. This operation secures physiological rest during the repair of the fracture.

Attention now must be directed to the wound itself. Any loose fragments or spiculæ of bone are removed, except where they are adherent to periosteum, in which case these detached pieces are preserved, and they seldom exfoliate owing to the blood-supply through the periosteum. The interior of the wound is thoroughly irrigated by a syringe, or by a tube from an Es-march's wound-douche. Having cleansed the limb, including even the fingers and toes, and having adjusted the fragments and having washed out and disinfected the interior of the wound, the application of a splint is now made. The limb is elevated, and under it are placed towels saturated in some disinfectant solution, which keeps the limbs from coming in contact with the covering upon the operating-table, or from the opposite limb, or from any part of the body. If the wound is small a piece of surgically clean adhesive plaster is placed over the seat of fracture, and then collodion is painted over the plaster. If the wound communicating with the seat of fracture is too large to hermetically seal in the manner already described, a part of the wound can be closed by catgut suture, and a drainage-tube is introduced into the bottom of the wound. Decalcified bone drainage-tubes are used, as they seem to answer the purpose in the most satisfactory manner. Into the wound, and over, and around the wound is sprinkled a layer of iodoform and then over this any of the many differently prepared dressings, such as corrosive sublimate gauze, or iodoform gauze, or absorbent cotton. The limb is now ready for the splint. A roller of Gamgee's absorbent cotton is heated which causes it to swell, and this is now made to envelop the entire limb. Heating the cotton seems to permit it to expand, and any dressing, such as a plaster-of-Paris bandage, can be snugly applied over it, and the cotton will not lose its wonderful elasticity. During the application of the bandage, extension and counter-extension should be employed, the patient being at the same time well under the influence of ether. The bandage is now permitted to dry, and great care must be exercised while the bandage is drying, lest the patient while returning to consciousness, disturb the setting of the plaster and consequently the wound. The patient is placed in a suitable bed after the plaster-of-Paris bandage is firm. If there is no irritation or unpleasant sensation at the seat of fracture, if the toes or fingers are free from any numbness or cyanosis, if the respiration, pulse and temperature are normal, the first dressing is left undisturbed. In many cases the plaster-of-Paris bandage is worn until the fracture is repaired and primary intention has been obtained.

If, on the other hand, there is a slight irritation or unpleasant sensation at the seat of fracture, if the toes or fingers are numb or cyanotic, if the respiration, pulse and temperature are not normal, or if there are any other indications of disturbance, a fenestrum is cut over the site of the fracture, and the wound examined. Should the wound be inflamed and the tissues tense, the opening down to the fracture should be enlarged and the bottom of the wound washed out with a solution of bi-chloride of mercury or carbolic acid. The wound is now left to freely suppurate exposed to the air. The key-note to success under these conditions when suppuration is in process is to keep the parts absolutely clean and pure from all contamination. A healthy granulating surface, secreting pure, rich, yellow creamy pus is in itself a barrier to the entrance of septic absorption into the general system. If the granulations are weak and flabby, a poultice of flax-seed and carbolic acid placed over the wound for a few hours will stimulate the granulations. When the poultice is removed, some stimulating application may be employed with advantage, among which may be mentioned balsam of Peru, iodoform, powdered red chinchona bark, bismuth and oxide of zinc. These remedies seem to stimulate with greater efficiency when employed in alternation, as one remedy by continual application soon loses its efficacy. Absorbent cotton should be nicely packed in and around the fenestrum and changed whenever soiled. When a fenestrum exists, the limb can be suspended to great advantage in a Fluhrer's swing, which not only affords the patient great comfort, but permits the limb to be turned so as to allow free drainage from the open wound. When the leg, for example, is thus suspended, the patient can move about in bed, or even lie upon his side. If the inflammatory swelling is considerable, and other things denote that the splint is too tight, the plaster-of-Paris bandage is immediately cut down and the leg put into a fracture-box. This point cannot be too strongly impressed. Plaster-of-Paris can do irreparable mischief in a few hours, and for this reason, the splint should be sacrificed at once when there is the least suspicion of anything wrong.

After the leg has been removed from the plaster-of-Paris bandage it should be put into a fracture-box. It is seldom the surgeon is required to do this; but occasionally, from some unknown causes it becomes necessary. The fracture-box should be filled with oakum, or what is better, ordinary bran thoroughly soaked with carbolic acid, and then allowed to dry in the sun. This hint was given to me by Prof. Hamilton, whose reputation in the treatment of fractures is world-wide. When the limb is in proper condition, it should be again replaced in the plaster-of-Paris dressing, to remain until union has taken place. Great care should be taken to prevent any infiltration of pus or the formation of an abscess. Counter-openings should be promptly made whenever necessary.

Before entering upon a discussion in detail of this subject, it is well to define exactly what is meant by a compound fracture; for frequently surgeons report cases of simple fracture associated with a lacerated wound under the heading of compound fractures. The entrance of air to the seat or fracture is an essential condition to the formation of a compound fracture, and hence it is evident that the wound in the soft parts is produced by violence which is exercised from within, and finally, in a pathological sense, it is the presence of air that causes the great difference in the repair of simple and compound fractures. We know by microscopical investigations that in simple fractures, from the granulation tissue cartilage is formed, and that bone is developed from the cartilage—whereas in compound fractures no cartilage is formed, unless all suppuration is completely prevented. It is suppuration which prevents the development of cartilage. Hence, it is evident that the processes of repair are different, and that, owing to the presence of the air in the seat of fracture, additional dangers are unavoidably encountered.

Dr. Dennis then gives tables showing the results in twenty-three cases of compound fracture of the skull; three of the thigh; fifty-eight of the leg; twelve of the arm; fourteen of the forearm; nine of the lower jaw; twenty-one of the fingers and toes; and four of the ribs and nasal bones.

Following the example of surgical writers, who have carefully tabulated the results of treatment in compound fractures, I shall eliminate all those

cases in which primary amputations were performed, because they do not concern the point at issue, but add the important fact that all the cases upon which amputation was performed in compound fractures recovered without an exception; and, I shall also, according to the practice of all writers, reject all those cases which died of hæmorrhage, collapse, shock, etc., within forty-eight hours, although most of cases died within a few hours after injury. I shall also leave out all those cases of compound fractures of the hand and foot, remarking, however, that all these cases recovered and the results are as follows;

Deducting 21 cases of compound fractures of the hand and foot, 14 cases of primary amputations, and 9 deaths which occurred within 48 hours or less from shock, there remain 100 consecutive, and of course unselected compound fractures, occurring in three large metropolitan hospitals without a death.

I have still other successful cases with which to begin my second series of one hundred cases of compound fractures, and I hope to report these cases at a future meeting of this Association.

The results obtained by this simple and uncomplicated method which can be employed by any one without the ready facilities of a hospital, or by any one who has no opportunity to obtain special dressings, compare most favorably with any statistics yet published. In bringing these 144 cases before the meeting of the American Medical Association, and in offering them as a clinical contribution, I do not wish it to be understood that I under-value antiseptic surgery. On the contrary, I am a great advocate for, and believer in, those principles of antiseptic surgery, which have been so emphatically enunciated by the renowned Lister. I only contend that the same results can be obtained by other and simpler methods, which are within the reach of all. The aim of this paper is to maintain that cleanliness is the *sine qua non* for surgical success, and that wounds and compound fractures can repair kindly and quickly without danger though exposed to the air. The open treatment of wounds of a certain character is after all the highest type of antiseptic surgery. These serious wounds will heal kindly when the surgeon acts well his part. There are certain wounds and certain injuries which repair best without primary intention, although I obtain primary intention in osteotomies, in the major amputations, in excision of large tumors and other capital operations.

THE PLASTER-POSTERIOR SPLINT IN THE TREATMENT OF FRACTURES OF THE LEG.

By GEORGE W. GAY, M. D., of Boston.

From the *Boston Med. and Surg. Jour.*, July 24, 1884:—The ideal dressing for a broken leg must be simple, comfortable, cheap, readily obtained, easily applied and removed, and must allow a frequent inspection of the limb without disturbing the patient. It must be applicable to all cases; capable of correcting any and all deformities, and of retaining the fragments in the desired position for an indefinite length of time; not liable to produce abrasions or other mischief; and once properly adjusted it should require little attention during the progress of the case.

Such an appliance has never, to my knowledge, been brought to the notice of the profession, but the one that seems to combine more of the desirable qualities than any other is the plaster-posterior splint, which has now been in constant use at the City Hospital for several years, and which has become a standard method of treatment in that institution.

The splint is made of sheet wadding, a coarse muslin or crinoline, and plaster-of-Paris. It may be applied as follows: The leg is washed and dried and enveloped in the cotton, which has been torn into strips about four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and tendo-Achillis from pressure.

A single layer of the gauze large enough to extend from the toes to above the knee is to be placed beneath the limb, closely wrapped about it, and cut

so as to completely surround it, with the exception of a space about an inch wide on the anterior aspect. This piece serves as a pattern by which the other layers, six or eight in all, are to be made. The muslin is to be slashed on each side opposite the point of the heel to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes may be required to make the dressing fit snugly and smoothly, and to prevent wrinkles.

Fresh plaster-of-Paris mixed with warm water to the consistency of cream is now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, moulded closely and carefully to it, and firmly secured with a common bandage. The fragments are to be held in their proper place until the splint has become sufficiently firm to prevent displacement, which with good plaster is not over fifteen or twenty minutes. In some cases this object may be accomplished by means of sand bags or pillows. In a few hours the outer bandage may be removed, the cotton wadding cut open with scissors, and the appliance is complete, and may be worn with comfort for several weeks.

A certain amount of judgment and tact is required to use this dressing satisfactorily, but no more than is necessary in the treatment of fractures of the leg by any other method.

The writer wishes it to be distinctly understood that this dressing is not adapted to all varieties of fracture of the leg. For example, some cases of Pott's fracture accompanied by marked eversion of foot, requiring strong pressure to restore and retain it in its proper position, can perhaps be better treated by other methods. So likewise may those bad cases of oblique fracture of the tibia, the fragments of which override each other to a great extent. Severe contusions of the soft parts should not be subjected to pressure until all danger of ulceration and sloughing has passed. The presence of blebs or blisters, however, does not necessarily preclude the use of this dressing, as they may often be treated through an opening in the plaster.

It has always seemed to me that those physicians who permit their patients to move about on crutches a few days after an immovable bandage of any kind has been applied to a recent fracture of the lower extremity allow their enthusiasm to get the better of their judgment. The complications liable to occur during the repair of broken bones are so numerous, and at times so insidious, and suits at law for malpractice are so common, that in my opinion no adult should be allowed to move about until there is fair union of the tibia and fibula, which usually requires from four to six weeks, and very little weight should be put upon the limb for some time longer. There can be no doubt that deformity occasionally takes place in these cases from the patient's getting up too soon, while the union is green, thereby allowing the fragments to gradually yield under the weight of the body.

While I do not think the plaster-posterior splint is adapted to all fractures of the leg, yet in the classes of cases specified in this paper I most heartily recommend it.

SOME OF THE DANGERS AND DISADVANTAGES OF ANÆSTHESIA.

By DAVID W. CREEVER, M. D., Prof. of Surg. in Harvard Univ., Surg. to the Boston City Hospital.

From the *Boston Med. and Surg. Jour.*, May 29, 1884:—The form of anæsthesia considered in this paper is that produced by the inhalation of sulphuric ether.

It is the object of this communication to point out what is the danger and what the disadvantage in breathing sulphuric ether.

(1.) The danger in breathing ether is chiefly from impeded or failing respiration. The heart outlasts the lungs. Suffocation, or coma at the breathing centre, are the causes of death. Temporary paralysis of the palatine muscles causes the stertor or snoring respiration, and the falling back of the tongue carries with it the epiglottis, and closes the larynx. When this condition threatens the operator opens the mouth, and perhaps draws forward the tongue. When, however, he sees the tip of the tongue out to the incisor teeth he thinks it safe, but in this he is mistaken. The tongue in

this position still blocks the entrance of air on account of the falling of the palate, and it is only when the tongue is forcibly drawn out of the mouth that the air-passage is opened, and suffocation averted. The larynx can also be opened by placing from behind the two thumbs under the angles of the lower jaw and pressing forward. The muscles of mastication being relaxed the jaw subluxates over the *eminencia articularis* or, rather, on to it, and carries forward the tongue, and with it the epiglottis, and thus opens the larynx, the mouth being already open.

(2.) In some persons, and we cannot foresee in whom, the mucous membrane of the throat and air-passages is very sensitive to the irritating fumes of ether. This sensibility first shows itself in croupy respiration, a spasmodic stridor followed by an incessant dry cough. Letting in more air relieves the spasm of the glottis, and the narcotism of more profound etherization soon quiets the tickling cough. In many persons there soon follows a new peril from a great *secretion of frothy mucus*. The mouth, pharynx, and nares bubble with fluid, and soon the same over-secretion pours out in the bronchi, fills the air-passages, and finally approaches a capillary bronchitis. Slow lividity ensues, the arteries spout venous blood, and the patient is on the verge of suffocation, drowned in his own secretions. This is a very tiresome complication. Etherization has to be entirely suspended for a considerable time.

(3.) Tetanic symptoms are often annoying, and if not relieved by appropriate treatment become dangerous. Obstinate pronation of the forearm and wrist, inversion of the thumb, opisthotonos, boring by boring the head back in the pillow, these are evidences of suffocation, and are relieved by removing the ether, and allowing of a few inspirations of air. A most dangerous complication is *tetanic setting of the inspiratory muscles of the chest*. No air enters; respiration with the diaphragm fails to fill the lungs, and the patient dies as in true tetanus. I once saw this condition in a middle-aged man. It may come on instantly without warning. This condition must not be confounded with that where the diaphragm is seen laboriously pumping on a collapsed lung, the glottis being closed by the tongue or by spasm.

(4.) *Simple exhaustion* is another source of danger in anæsthesia. Death may occur from slowly failing respiration, so gradual as not to attract notice.

(5.) *Disease of the heart* may cause death during the inhalation of ether. Well marked valvular disease, pericarditis and effusion, or a fatty and feeble heart, may contribute to a fatal result, and yet I have repeatedly etherized patients with valvular disease with safety by using caution, and giving them plenty of time. Sulphuric ether is a stimulant to the circulation, and if given slowly, well mixed with air, and not pushed either to lividity or exhaustion, may be given safely in many cases of heart disease.

(6.) *Apoplexy*, sanguineous or serous, may follow the coma of etherization in the old, or in drunkards. Atheromatous vessels may give way under the great congestion produced by full anæsthesia; and the "wet brain" of alcoholism may succeed the stupor of ether.

Having reviewed the dangers, we now pass to the disadvantages of anæsthesia.

Does etherization diminish shock?

Primary shock it does lessen. It removes apprehension, and it annuls pain. But it does not remove the secondary shock which follows an operation.

(7.) One of the marked *disadvantages* of anæsthesia is that it decoys the operator into *delay and slowness* in his work.

(8.) Drunkards and steady drinkers succumb slowly to the narcotism of ether. They pass through a long period of excitement and delirium before they get the sleep; they have an equally long and violent delirium on coming out. They are subject during etherization to *persistent and recurrent tremors*, which delay an operation or jeopardize its safe execution. It is frequently not until the surgeon has finished that they become quiet and narcotized.

(9.) *Vomiting and lasting nausea* are among the disadvantages of etherization. The larger proportion of patients vomit during anæsthesia or after it,

or both. This is especially disastrous in abdominal sections, in operations for hernia, and in section of the cornea and iris.

(10.) *Intoxication and delirium* on coming out of ether are especially injurious after a simple, or worse still a compound fracture, has been set. Except in a child, or to settle a diagnosis, the setting of broken bones is better done without ether. In nervous women the delirium assumes the form called hysterical. I have seen it last for twenty-four hours.

The following operations are better done without anæsthesia:—(1.) *Extraction of cataract*, already spoken of. (2.) *Tracheotomy for disease*. (3.) *Paracentesis thoracis*.

There is no reasonable doubt that complete anæsthesia during parturition leads to tardy contraction of the uterus after labor, and hence increases the risk of flooding.

Deaths from inhaling sulphuric ether are rare. It is a noteworthy fact that most of them occur during operations on the rectum, perinæum, or in the vagina. The reason is not far to seek. The surgeon is too far removed from the anæsthetic to notice the mouth, the tongue, the respiration, the chest, the diaphragm. An incompetent assistant or a nurse holds the ether sponge, and the patient may die before her peril is discovered. The operator should watch the levator ani muscle, which moves with the diaphragm. This may be called perineal or pelvic respiration.

What are the essentials for giving ether safely?

(1.) An empty stomach. (2.) A loose neck. (3.) A free abdomen; no corsets or skirt bands. (4.) Removal of artificial teeth. (5.) An easy, semi-recumbent position. (6.) A sponge wrapped in towels for the ether. (7.) A gag, and forceps for the tongue.

When stertor occurs the patient should be tipped forward, the cheek opened with two fingers, the tongue drawn out, the fauces swabbed. To insure safety the surgeon should hear every respiration of the patient.

Anæsthesia from sulphuric ether is of two forms:—(1.) Primary anæsthesia, which is a moment of confusion coming on after a very few inspirations. At this moment a felon can be opened without pain, and the patient wake at once. (2.) Comatose anæsthesia, for prolonged operations. Ether may be given almost indefinitely. To relieve the hopeless agony of tetanus I have had it administered for twenty-four hours.

If you would avoid asphyxia, nausea, and headache, and be *safe*, use only the best and the purest anhydrous sulphuric ether.

ETHERIZATION BY THE RECTUM.

By JOHN S. MILLER, M. D., of Philadelphia Pa.

From the *Proceedings of the Philadelphia Co. Med. Soc.*, June 11, 1884:—I desire to report four cases of etherization by the rectum, a method of producing anæsthesia first suggested by Dr. Axel Yversen of Copenhagen.

Dr. Miller reports his cases and concludes his paper as follows: In this method of etherization the most obvious advantages are as follows:

1. Dyspnoea is avoided and the patient is saved from the anxiety due to a sense of impending suffocation.

2. There is avoided the danger of simultaneous irritation of the superior laryngeal and pneumogastric nerves at the periphery—these irritations neutralizing each other in the respiratory centre, and suspending respiration entirely.

3. The danger of asphyxia is lessened—the patient not being drowned in his own mucus, and the integrity of the pulmonary mucous membrane as an organ of gas exchange, is preserved. Of course some vapor finds itself in the lungs, and acts there as a local irritant—elimination being by that channel. But the quantity is not great and does not constitute a source of danger. In the cases reported, the increase in secretion was too trifling for discovery.

4. The stage of excitation is therefore not prolonged by the struggles for breath. In general it may be said that the delirium of any alcoholic intoxi-

cation is a pleasant and good-natured one, unless the patient is crossed—as he certainly feels himself to be when a wet towel is pressed over his face.

5. Nourishment may be taken before operation to sustain the powers of life, and lessen the dangers from shock.

6. Return to consciousness is prompt—this stage not being prolonged by carbonic acid poisoning.

7. The anæsthetic seems as readily suspended as by the ordinary method—the bowel being promptly emptied by gentle massage.

8. Economy in either is an advantage hardly to be mentioned with more important considerations.

The more obvious disadvantages are:

1. The exposure of person required—the abdomen being necessarily under observation, even if the catheter be inserted under cover.

2. More judgment and experience is required in the administration than by the ordinary method—over-boiling in the apparatus and too much distension, being both painful and highly dangerous. The warning to cease is sudden, and must be immediately obeyed.

3. Just as the other mode is inconvenient in oral surgery, so in perineal operations is the apparatus needed for this method, in the way.

4. In abdominal surgery, or if these be marked intestinal lesion, this mode is contra-indicated.

5. The inapplicability in cases of accident and emergency, when time cannot be allowed to prepare the bowel, has already been mentioned.

6. Diarrhœa has been noted in seven out of the thirty-seven cases on record, though in none of mine.

I believe this sequel is due to pre-existing intestinal lesion, to the lack of preparation, to a too great distension of the bowel, or to the accidental introduction of ether in liquid form. Furthermore, my method has differed from that of other experimenters in this respect, that instead of allowing the vapor to remain indefinitely, I secured a constant change by using a recurrent catheter, and introducing a certain quantity, or permitting it to escape, as indicated.

A POSSIBLE DANGER IN THE FORCIBLE TREATMENT OF ANKYLOSIS.

By J. Block, M.D., Kansas City, Mo.

From the *Kansas City Med. Record*, July 1894.—Nowhere, probably, do we find the achievements of the surgical art and science more brilliantly displayed than in the results attained in the treatment of ankylosis.

My remarks will be confined to the consideration of one of the dangers in the treatment of false or incomplete ankylosis, rather than to those that may be met in the treatment of its more formidable congener—osseous or true ankylosis. Gross, Erichsen, Bryant, Holmes, Birwell, Sayre, and others enjoin caution in manipulation with a view of avoiding fracture, inflammation, and its sequelæ, but none seem to direct sufficient attention to the possible rupture of the *vascular channels* in the vicinity of the larger articulations, and the instructions that follow are fashioned to avoid or control such accidents, should they occur. In the *International Encyclopedia of Surgery*, the article on ankylosis contributed by Birwell contains but one sentence intimating the possibility of arterial rupture in treating this condition by *brassage forcé*, as follows: "Deeper parts, such as the artery, have been torn by too energetic surgery"; and Gross leaves one to surmise it indirectly by the following paragraph: "These attempts at curing ankylosis may not only eventuate in fracture, either of the joint itself or of those in its immediate vicinity, but they may give rise to consequences still more disastrous, as violent inflammation, erysipelas, gangrene, and even loss of life." The tenor of the latter author's remarks certainly does not imply that such catastrophe should enter into the estimate of the chances for or against in determining the feasibility of the operation.

Under these circumstances, I feel convinced that you will pardon my effort to intrude upon your notice this danger in the treatment for the cure of

ankylosis, especially since it has been my misfortune to have acquired such experience.

A vigorous young man about twenty years of age, presented himself with ankylosis of the right knee-joint of nearly a year's duration. The patient and his friends were anxious to have something done to restore the utility of the limb; at least to relieve him of what had proven an incumbrance, without sacrificing the member.

Having secured the assistance of my friends, Drs. Halley and Griffith, the patient was anesthetized, and I then proceeded to tenotomize the hamstring tendons. The force that was applied after their division, though not extremely violent, brought the leg down to an obtuse angle. During manipulation the creaking and breaking of the fibrous adhesions were distinctly audible. The disruption was accomplished in the usual manner, by sudden, abrupt movements, first in the direction of flexion, and then extension; but since we did not regard the leg sufficiently extended to meet the indications, decided pressure was brought to bear on the anterior joint surface, the leg being steadied upon the table. This manœuvre completely severed the adhesions, but, to our surprise and astonishment, a large volume of arterial blood suddenly issued from the openings made by the tenotome. Pressure applied to the femoral promptly controlled the hemorrhage. After a short delay an Esmarch bandage was applied, the popliteal space freely laid open, where, after a careful and tedious search, we found the popliteal with a longitudinal rent. The tissues were much matted, and the normal relation of the parts somewhat disturbed. Ligatures were placed above and below the rent in the vessel, and the latter divided between them. The wound was washed out with a carbolized solution, and the extremity, placed in a semi-flexed and abducted position, was dressed with absorbent cotton. For the first forty-eight hours all went well. The limb soon regained its natural warmth, and the first danger—gangrene—seemed averted. A decided rise of temperature and an erysipelatous blush, with a dry and angry-looking wound, changed the aspect of things. The stomach of the patient, irritable from the beginning, continued so, rejecting both food and medicine, and delirium and pain harassed him. The erysipelas soon began to spread both upward and downward, extending almost to the groin above, and the ankle beneath. Despite our efforts to correct the condition of affairs, matters went from bad to worse, and on the seventh day a slight hemorrhage sounded the first alarm. This was easily controlled by applying a tourniquet above. It seemed of venous origin. The wound secreted a sanious pus, and the outlook was anything but encouraging. On the twelfth day the patient died, having had another secondary hemorrhage on the tenth day.

As previously stated, recognized surgical texts contain almost nothing alluding to this complication, and absolutely nothing as to how it should be dealt with in event of its occurrence. And how are we to recognize or anticipate this pathological change? There appears to be an accord of opinion as to the advisability of avoiding the reduction of old unreduced dislocations because of this very accident. Here we have a condition somewhat analogous: the luxated member being limited in its range of motion and held at some distance from its usual site by adventitious products; the normal relationship of important structures much disturbed; the vessel as a rule put upon the stretch; in this latter respect differing only in degree and not in kind. That there is some important difference no one will doubt, or surgical history would be as replete with casualties induced by the forcible treatment of ankylosis, originating either in trauma or disease, as it is with those occasioned by the reduction of old unreduced dislocations. It appears also that the subluxations so commonly attending ankylosis do not negative the possibility of their cure, nor contra-indicate their treatment; and here the analogy between them and old unreduced dislocations is still more striking. How, then, can we determine in advance the probability of this accident? It is reasonable to surmise that in many of these cases, besides the shortening and contracture of the muscular and tendinous parts, periarticular adhesions exist, including the artery, which sometimes constitutes the last guy after tenotomy; and this does not deter cautious and conservative surgeons from

the undertaking. By what sign or symptom are we to be apprised of this danger?

In event of arterial rupture, it appears to me the best course to adopt would be amputation; that is, at the knee or elbow joints. Where the sheath of the vessels is infiltrated with a lowly organized fibro-cellular product, and the other coats in a state of fatty degeneration, the organization of a clot and ultimate closure of the diseased vessel must be regarded as problematical. If we should ligate above the seat of injury, it looks like trusting to chance, and we must remain in constant apprehension of hemorrhage from the distal end. Rather than following the old and well-established rule of Guthrie, it would probably be giving the patient a better chance for life by resorting to amputation. Should the femoral be implicated, the same rule would not obtain, the well-known high mortality rate following amputations at the hip joint suggesting any other expedient in preference.

THE ULTIMATE RESULTS OF BONE DISEASE INVOLVING THE JOINTS.

By V. P. GIBNEY, M.D., of New York.

From the *New England Med. Monthly*, June 15, 1884.—Surgeons are generally agreed that the greater portion of the joint lesions of childhood are osteitic in their inception. At all events the cases I am now considering are bony from the outset, and these are exceedingly difficult to conduct to a successful issue. I say "conduct to a successful issue," because we are all familiar with the discouraging complications that arise during most any plan of treatment.

Many cases go to a successful issue despite the therapeutics, and the majority of these are in children remote from crowded cities. Bones thrive better in country air, inflammatory lesions undergo resolution sometimes, and even neoplasms sometimes disappear.

If the hip be the joint at fault the result is about as follows:

1. A certain percentage of cases, not over ten, I am convinced, in private practice, terminate in death by exhaustion from pure suppuration, or from amyloid, or lardaceous disease dependent on prolonged suppuration. A few die of tubercular meningitis.

I have on former occasions demonstrated that those patients dying of lardaceous disease come of tuberculous parents, and one knowing the family history to be void of such taint can rest reasonably sure that any amount of suppuration will not induce lardaceous changes in the liver or kidney. In giving a prognosis then in bone lesions involving the hip a knowledge of the family history is of great importance.

The duration of those cases dying by exhaustion is about three and a half years. This is the rule; a few linger a much longer period. It is my conviction that death may often be averted, in hospital practice at least, by sending the child into the country or home, even if the home be in a crowded tenement of a city.

2. A large number of hip cases, that practically have no treatment, terminate, after one or a succession of abscesses, in a cure with shortening, varying from one and a half to four inches, with a limb adducted at an angle with the normal vertical axis of the body of from ten to twenty degrees, and with a limited degree of motion at the joint. I have notes of a large number of cases of what are called "Nature's Cure" with about this result. If ankylosis exists, and occasionally it is bony, the angle of deformity in flexion is about 135° .

And let me here state that a hip with that amount of deformity cannot be made more useful than it is by any operative interference, unless, perhaps, there is combined with this a strong degree of adduction.

In many of the final results I have traced, I have often been amazed at the great facility in locomotion. The spinal column is arched forward by way of compensation, the pelvis is lower on the diseased side, and the limbs are practically parallel—while when the sitting posture is assumed little or no

inconvenience is complained of. If one will take the trouble to compare a patient with a hip ankylosed at an angle of 135° with one whose angle of ankylosis is 160° or 150° even, the advantages both in sitting and in walking will be found in favor of the former. So that one need not feel anxious about a case thus deformed. Let well enough alone.

3. Occasionally one meets with rectangular deformity at the hip after bone disease.

What then, it will be asked, can one expect from a thorough and persistent course of treatment? The average result is a comparatively straight limb—no ab- or ad-duction, possibly a little motion at the joint, from one to one and a half inches shortening. A few—the statistics are not at hand—die as others die. Others get a certain amount of deformity despite the apparatus.

What then is the value of treatment? The suffering is reduced to the minimum. Exacerbations are greatly modified, and the number should be reduced, the limb is maintained or should be maintained in that position best fitted for use, provided ankylosis is to ensue. If any who hear these statements, have in mind cases wherein far better results than I have set forth have been obtained, let them understand that my remarks bear only upon cases of true and unmistakable chronic osteitis of the bones entering into the coxo-femoral articulation. With him who talks in general terms about "hip-disease," and coxitis and "inflammation of the hip," I have no discussion now. If cases are adduced, let them be so reported that any one can from the examination given make the diagnosis.

The results of excisions of the hip are already a subject of wide-reaching record, and I propose not to cull from the long list of true and doubtful cases a revised list for statistical purposes. Suffice it to say that, many brilliant results have been obtained, and many failures have been distorted into successes. The truth, in my opinion, about excision of the hip-joint is, that too much is claimed for it. The operation certainly has merit enough to stand.

So much, then, with regard to chronic osteitis at the hip—and a brief résumé would be: (1) Far better limbs than one would imagine, especially if one sees the case in the midst of the second stage or in the distortions of the third. (2) Fewer deaths than we are accustomed to look for. (3) Extreme bony deformities which can be corrected very satisfactorily by late osteotomies. (4) Better results from mechanical treatment intelligently carried out than by any other plan. (5) The arrest of suppuration often and of lardaceous changes by excision or amputation.

Knee-joint.—The results of what is known as "expectant treatment" in the disease as it affects the knee-joint, are far better than those at the hip-joint.

The average knee that has gone through with a chronic osteitis is a movable joint—(the arc, it is true, is sometimes very small)—a moderate subluxation with shortening of the hamstrings, and an angle of deformity of about 150° . The child becomes very active, and the gait may be almost imperceptible.

Some however are ankylosed in very faulty positions, and these require surgical means for relief. A few do not suppurate and these are called caries sicca. I am using the term *few* advisedly. I know some authorities state quite the reverse, but my opinion is unchanged by the weight of authority. These gentlemen have not had the cases under observation for a long period of years, and have operated before the stage of suppuration. It is very difficult to say of a chronic bone disease that it has passed that stage when suppuration will not appear.

These lesions, as they affect the epiphyses of children, it must be stated plainly, differ materially from those as they affect the epiphyses of adults. In the one instance the bones are primarily attacked, while in the other the synovial membrane is primarily attacked. Primary synovitis is the rule in adults; secondary synovitis the rule in children.

It does no harm to wait and to treat expectantly, in the suppurating knee-joint disease of childhood. Delays are dangerous in the suppurating antri-

tis of the knee in adults. Death rarely ever occurs in children affected with caries of the knee.

The results in the different methods of treatment differ very little. I do not see that extension accomplishes one whit better results than does fixation. After witnessing the two modes of treatment I am prepared to give my preference to fixative apparatus. I know that good limbs follow such modes of treatment. I am equally well aware, too, that many deformed knees can be found in children who are, or have been, affected with chronic ostitis of that joint. They are deformed because fixation splints have not been employed at a time when there was most need for fixation.

The operative treatment of suppurative knee-joint diseases is not very popular with orthopedists. Certain physiological objections are advanced and seem to have much weight. It is quite certain that more useful limbs are obtained, in children at least, by mechanical treatment. If one desires to excise there is really comparatively little danger if cleanliness and thorough antisepsis, both in operating and in dressing the wound, be observed.

Ankle-joint.—In 1880, I published in the *American Journal of Obstetrics and Diseases of Women and Children*, a paper based on a study of thirty-eight cases of caries of ankle in children, and the conclusions I drew then are the same I would draw now after a still more extended study:

1. Many children annually undergo amputation of the foot for caries of the ankle, when, by conservatism and a proper amount of respect for the *vis medicatrix nature*, the member could be saved, the child be spared the mortification of being thus hopelessly maimed, and surgery itself be enabled.

2. Excision, as a rule, is not attended with as good results in children as authorities have led us to expect; and is *rarely ever justifiable*.

3. Partial excisions, the passage of tents through the joint, and other operative procedures offer no advantages over the expectant plan.

4. Nature herself, unaided by art, gets useful limbs, but, as a rule, ankylosis varying in degree and deformity more or less marked.

5. The expectant plan of treatment, fully carried out, assures us of more results that are perfect, and more limbs that are useful without the aid of support, than does any other plan known to the profession.

I have elsewhere endeavored to define what I understand the expectant plan of treatment to mean. This definition relates to bone diseases as it affects the hip.

“What do we understand by the term expectant! Literally it means to wait. Waiting for symptoms and signs to arise before treatment is instituted, and thus directing the treatment to these phenomena of disease; discontinuing as they disappear or are modified; resuming on their reappearance—this is what is generally understood as expectant treatment. Physicians who adhere to the expectant treatment are known as conservatives; indeed, expectancy and conservatism have somehow become synonymous terms. If one treats a case expectantly then he is called upon to relieve the symptoms during the exacerbation in any way that he may find the most satisfactory. For instance, if he finds that rest in bed with weight and pulley gives relief the more promptly, he will employ this method; if he finds that local applications, such as cold-water dressings, hot fomentations, mild counter-irritants, or blistering and poulticing,—if he finds that any one of these serves him best he will employ that one, and still be treating the case after the expectant method; if, again, he finds that symptoms yield best to opiates he will employ opiates.

“When the second stage is reached, and deformity appears, it will be his duty to adopt such measures as will correct deformity and retain the limb either in normal position or in that position which will assist in bringing about the best possible result. Some employ the weight and pulley, some the crutches and high shoe, and some retentive apparatus. The aim in every instance is the same, and it all forms a part of the expectant plan.

“If abscess forms, it is his duty to manage this on what appears to him correct surgical principles. It will occur to one man to open early, thus avoiding the formation of a large sac with extensive suppuration; to another

it will seem dangerous to touch the abscess so long as constitutional symptoms are absent. Both are aiming at the same object, viz., the minimum amount of suppuration. When it becomes clear that caries necrotica has advanced to such an extent that spiculæ of loose bone are present in the joint cavity, then the expectant plan demands a removal of these, as it would a removal of any foreign body which militates against recovery. The minimum amount of cutting is of course expected. As a rule, no operative procedures are resorted to for the removal of such sequestra, as their presence is not known until they are seen projecting from a sinus. Thus a pair of forceps or one's fingers suffice to effect a removal.

"Again, when displacement and distortions have not been prevented, it is the duty of him who follows the expectant plan of treatment to reduce the deformity to the minimum. This is sometimes done with apparatus, and sometimes by means of the surgeon's knife.

"When resolution does not take place, and when the suppuration continues to the production of lardaceous changes, a consistent expectancy would demand the removal of the cause, and the physician who follows the expectant plan might find himself some day excising a hip-joint. It is certainly his duty to give his patient the best chance of life, and if he accepts the facts already indubitably established, he will most assuredly give his patient that which offers about the only chance of life. If, on the contrary, he does not accept the facts as recorded he will treat the symptoms as they arise; will administer diuretics, cathartics, etc., etc."

TREATMENT OF ACUTE ABSCESS.

By STEPHEN SMITH, M.D., Surgeon to Bellevue Hospital, N. Y.

From the *Medical Herald*, June, 1884:—In many instances of the ordinary acute abscess I have recently had excellent results in treating them for immediate cure. The following example illustrates the course pursued:

A man had an abscess on the external part of the thigh, resulting from a severe fall. There had been a high grade of inflammation, much suffering, and a temperature of 103° F. At the time of the operation the temperature was 101° F. There was fluctuation, but pus was not very near the surface. The treatment was as follows:

When the patient was fully under the influence of the anæsthetic, the parts were thoroughly washed with soap and water and a flesh brush, and then with a douche of corrosive sublimate solution 1 to 500. Then the abscess was opened with a knife, treated with a carbolic solution 1 to 30, the opening being of a size to admit the nozzle of a Davidson syringe. The depth of the abscess cavity was two inches. The pus was forced out by pressure, and when it ceased to flow the nozzle of the syringe, well disinfected, was introduced and the edges of the wound held firmly around it. The cavity was then distended to its fullest capacity, with corrosive sublimate solution 1 to 5,000, the amount of water injected being one pint. Withdrawing the syringe tube, the solution was forced out, with strong and gentle pressure. This injection and hyperdistension was repeated three times, when the water flowed away quite undischored. An incision was then made down to the cavity of the abscess, its full length, the incision being six inches long. With tenacula the edges of the wound were held apart, and the entire cavity exposed. During this part of the operation the irrigation with the corrosive sublimate solution, 1 to 2,000, was continued. The internal surface of the abscess was covered with large granulations and shreds of broken down connective tissue.

The process of cleansing the wound was next begun with disinfected hands and instruments. All the shreds of tissue were carefully dissected away, and the granulations were gently scraped off with the curette, until a perfectly clean surface was everywhere apparent. Several small vessels were ligated with carbolized ligatures, and the whole surface of the cavity thoroughly irrigated. The wound was closed with the interrupted suture, except at the lower extremity where a small opening was left for drainage, over which was placed a disinfected sponge to absorb the discharge. The external wound

and adjacent skin were sprinkled with iodoform; folds of gauze, between which iodoform was sprinkled, were applied around the limb from below the knee to the hip; over these layers a dressing of borated cotton was wrapped about the leg and thigh, and over this was applied a light plaster of Paris dressing, which completed the operation.

On the following day the temperature had fallen to normal, and did not raise again to 100° F.; the pain entirely ceased; the appetite returned; sleep was sound and undisturbed. The patient stated that from his recovery from the anæsthetic he felt entirely well. The dressing was removed on the eighth day. The wound was entirely closed, and though there was some thickening of the tissues involved in the injury there was no tenderness. He could walk without pain or inconvenience, and there was a rapid subsidence of the swelling of the part.

I have operated for acute abscesses of the neck, back, groin, etc., in a similar manner, and have not failed of rapid and complete recovery without further symptoms.

This operation may be extended to furuncles and carbuncles when they have a local origin. The exciting cause is some small necrosed tissue. If this irritant is early and thoroughly removed, and the parts rendered aseptic, the disease will be arrested. Carbuncles of the face, the so-called malignant pustule, has long been treated, and generally the disease is arrested by early incision, and filling the wound with spirits of turpentine. The value of this treatment was supposed to lie in the local suppuration induced, but it is more probable that the turpentine acted as an antiseptic. If the surgeon would go a step further, and not only make a free incision through the inflamed tissues, but carefully scrape off, as far as possible, all diseased structures, and render aseptic the surfaces of the wound by the remedies now to be found so efficient, the disease could doubtless be arrested in its incipient stage.

We are evidently on the eve of the adoption of measures for the *prevention* of this formation of pus in a great number of cases where hitherto the practice has been to encourage suppuration as the proper method of cure.—*The Æsculapian*.

SURGICAL DELUSIONS.

By JOHN B. ROBERTS, M.D., Prof. of Anat. and Surg. in the Philadelphia Polyclinic.

From the proceedings of the *Med. Soc. of the State of Penn.*, 1884:—

Chloroform Anæsthesia.—Many still cling to the delusion that chloroform is a safe anæsthetic, because they have never seen a patient die from it. In one man's experience to weigh against the physiological, the experimental, the clinical experience of the whole world? Dare we employ chloroform, instead of ether, when recognized authorities state that in chloroform anæsthesia death occurs without warning in the hands of experienced administrators; when some five hundred deaths have already been reported; when Schiff and Dalton reject it in physiological laboratories, because of its mortality; when the scientific grants committee of the British Medical Association assert that chloroform is a more dangerous anæsthetic than ether? The assertion that it is often impossible to produce anæsthesia with ether is the result of inefficient methods of administration.

Value of Styptics.—The belief in the necessity of styptics is a delusion less dangerous than that first mentioned, but is given more extended credence. Such agents are seldom, probably never, needed in general surgery to arrest hemorrhage. When ligatures, torsion or acupressure is not demanded, and such is seldom the case unless the artery is as large as the facial, moderate, direct pressure, applied in dressing the wound, is the only hemostatic required. Styptics often do harm, and, as they are not needed, they should be discarded.

Fatality of Small Hemorrhages.—There is much misapprehension about the quantity of blood that a healthy person may lose with impunity. Many who often look with equanimity upon a parturient woman losing a pint of blood from the uterine sinuses would be dismayed at a woman losing half or a quarter that amount during removal of a tumor. While not advocating needless

waste of blood, and especially in patients suffering surgical shock, I assert that there is an unnecessary fear of blood spurting from a few insignificant vessels. The largest artery can be controlled by pressure not greater than is used for ringing the electric bell in your hotel.

Operative Delay in Strangulated Hernia.—A delusion of fatal issue is that leading to postponement of operative interference in strangulated hernia. Repeated attempts at forcible taxis and medical powwowing with temporizing measures have ended more lives than the use of the knife. Herniotomy done within twelve hours is almost always followed by recovery. Death is to be expected, however, if strangulation has existed for two or three days, and the gut has been bruised by violent manipulation in the endeavor to relieve the contraction by taxis. Moderate taxis under ether, a half day's treatment with cold applications and the internal use of morphia, and a second moderate attempt at taxis, followed, if unsuccessful, by immediate operation, is the sequence to be followed in strangulated hernia.

Operative Delay in Acute Phlegmonous Inflammation.—No insane delusion, no Spanish inquisitor ever caused so many hours of excruciating physical torture as the hallucination that acute abscesses and furuncles must not be incised until pointing has occurred. All the world knows that evacuation of imprisoned pus in phlegmonous inflammations means instant relief of the agonizing pain; yet, how few of the profession early and freely incise such inflamed tissues unless they first see the yellow pus under the thinned skin or feel the fluctuation of the fluid in the abscess cavity. Time and pain are both saved by early incision. If the cut is made before the pus has actually formed, so much the better. Probably no form of abscess needs early and free incision more imperatively than that under the palmar fascia.

Operative Delay in Malignant Tumors.—Much bad surgery results from a delusive postponement of operative interference in malignant diseases. Instant removal is to be practiced in such cases, provided the patient is deemed fit to stand the surgical shock.

Necessary Fatality of Traumatic Tetanus.—That traumatic tetanus is of necessity fatal is a commonly held opinion. Proper treatment is sometimes neglected because of this belief in its hopelessness. That the prognosis is extremely unfavorable, I admit, but that cases of a severe type recover is undoubted. Chloral hydrate in full doses has given the best results.

Fatality of Pericardial and Cardiac Wounds.—The prevalent notion of the excessive danger of these wounds is delusional, at least in as far as it teaches that these structures will not brook surgical interference. The pericardial sac should be dealt with exactly as the pleural sac, by aspiration, incision, irrigation and drainage according to the lesion. That simple puncture or aspiration of the heart itself is not accompanied by the expected risk to life has been pretty well shown, though I am not prepared to recommend its general adoption for trivial cardiac conditions. ["The prevalent notion" will continue to prevail.—ED.]

Symmetry of Normal Limbs.—Another delusion still existing in many minds is that the extremities are usually of the same length. Clinical and anatomical investigation show that asymmetry in the length of normal limbs is of common occurrence. Therefore, measurements of the legs in cases of fracture are of little value, since it is impossible to know whether it is the femur of a long or a short leg that is the seat of injury.

ON INJURIES OF THE HEAD.

By DAVID PRINCE, M.D., of Jacksonville, Ill.

From the *Amer. Practitioner*, June, 1884:—Questions have often arisen as to the propriety of opening the scalp to explore the condition of parts beneath, whether they might be contused, torn or fractured, or whether the seat of effusion of blood; and the rule of conduct has been quite generally interpreted against interference, on account of the fear of inducing cerebral inflammation. The nature of the parts favors this occurrence.

In view of this consideration, it may readily be asked why any cases escaped in which antiseptic agents were not employed, in the circumstance

of the opening of these parts to the air? The answer finds itself in the fact that an abundant fibrinous exudation, having a rapidly organizable property, affords a protection against putrefactive changes. Only dead parts can go into putrefaction. A firm organization of lymph seals up all avenues and no food is afforded for bacterial life. This firm organization implies, however, a vigorous vitality. Here is a difference of circumstance which can not always be measured beforehand by any signs.

This particular value of antiseptic agencies lies in the power of holding back putrefactive processes so that the behavior in cases of slow or feeble organization shall be like that in the cases of rapid and firm organization. By this means, the cases that would otherwise go badly are induced to proceed like the cases that do well *without* antiseptic agencies. This is the very point in the change of maxim in the treatment of wounds of the head. It is believed that an early and persistent employment of carbolic acid in a dilute watery solution will greatly increase the number of cases in which the progress toward recovery will be free from putrefactive changes. A one-per-cent. solution in a cold fomentation of several folds of muslin and wet anew every twenty minutes, is the formula of practice. The temperature is made to conform to the sensation of comfort if the patient is conscious, and a little below that of the body if not conscious. The maxim is then clear—

1. To cut through the skin and elevate portions of bone known to be depressed, and especially in all cases of puncture of the skin by pointed instruments or in cases of the penetration of the skull by cutting instruments. In these cases the inner table may be assumed to be depressed.

2. To cut through the skin and examine the condition of the bone in cases in which the deposit of considerable amount of blood has resulted from a blow on the head by a heavy body, or in cases in which the head has been struck by some other body with great force and in which the state of the bone is hidden under an extensive effusion of blood, and in which the symptoms of concussion or compression imply serious injury.

3. The antiseptic measure may embolden the operator to go further and not only trephine a fissured skull which is not apparently depressed but to open the the dura mater in cases in which it bulges into the trephine hole. The absence of the probability of septic complication justifies the expectation of the same readiness of healing in these parts as in wounds of other organs.

Experience justifies the belief that the safety of the patient is greatly enhanced by the relief from blood-pressure by the course here suggested, instead of trusting to nature to secure the absorption of the whole of the bloody effusion.

It is further suggested that the time for this interference is before the development of alarming symptoms. In this suggestion there is nothing different from the proper management of wounds of other parts, only in this, that in cases of injury of the head it is of the greatest importance to anticipate the development of inflammation, by incisions of soft parts, by the removal or elevation of depressed bone, and by the discharge of effused blood.

It may be mentioned here that the writer has not seen a case of hernia cerebri treated by the perpetual wetting with a weak watery solution of carbolic acid.

In the case reported in this paper there was deep concussion but no marked signs of compression, and yet the cranium was so full that the dura mater filled the trephine hole with great compactness.

The condition of an open wound with depression has not been here discussed, because there has never been any question as to the proper course to pursue, viz., to elevate the depressed bone. It may be mentioned, incidentally, that stitches should not be employed so as to interfere with the free discharge of effusions and exudations.

The use of a watery solution of carbolic acid has here been mentioned. There is an objection to the employment of the dry dressing, which may not apply to all other wounds, and that objection is the fact that the shaven scalp, though admitting of tight fitting at first, soon makes a loose joint by the growth of the hairs.

The wet dressing for wounds of the head secures a perpetual cleansing as well as the desirable amount of coolness.

The question of the propriety of opening the scalp where the injury itself has not occasioned an opening, and where symptoms are not immediately urgent, turns upon the efficient use of antiseptics which while efficient do not injure living parts.

The general management is by the nearest possible approach to starvation and by rest to the utmost practicable degree during the period in which acute symptoms are to be feared.

THE LOCAL ORIGIN OF MALIGNANT GROWTHS.

By T. F. PREWITT, M. D., St. Louis.

From the *St. Louis Courier of Medicine*, June, 1884:—Two very different views of the nature and origin of cancer have prevailed. The older theory, once almost universally accepted, and which has yet many advocates, supposed the existence of a cancerous diathesis, a cachexia indeed, which disposed to the formation of cancer in any and every part of the body. The local manifestation, inevitable, sooner or later, was but the outcropping of this diathetic force, its development at any given point being determined by the greater local susceptibility, local irritation or injury, etc. When growths occurred at other points, it was regarded as but the more general expression of a widely acting cause.

The later theory, and the one now most generally accepted, is the very antithesis of this. It discards the doctrine of a general morbid condition of the blood, and regards cancer as the result of local change of structure. It denies the existence of a primary cancerous cachexia, and points to the fact, that many cases, when presenting themselves in the earlier stages, are in robust health, the ill-health which manifests itself later, marking the progress of the disease in infecting neighboring and distant parts and contaminating the system.

The arguments to sustain the constitutional origin of cancer are based upon, (1) Its hereditary character. (2) The development of other cancerous growths in the neighboring and distant parts of the body. (3) The almost constant return after extirpation, often after long intervals of good health.

Heredity is admitted by almost all authorities as exerting an influence in the development of cancer, and the admission implies, to a certain extent, the existence of a constitutional tendency. Does it therefore imply a blood disease, the existence of a dyscrasia that renders the development of cancer at all times imminent?

But hereditary influence is equally marked in benign tumors, even the simplest, such as warts. It is observed, too, in lipomas, chondromas, osteomas, and neuromas. It will not be contended that these are blood diseases.

In what sense then shall heredity be considered as establishing a constitutional tendency? Manifestations of heredity may be classed under three heads.

1. In its influence upon the formative force in the process of development, growth and maintenance of tissue. This is seen in the development of special peculiarities of form, temperament, etc. A child has six fingers on each hand, because its parents had. The man becomes bald and gray at the time his father did. The woman is fat and fair at forty, because her mother was.

2. In predisposing to special tissue changes, cell changes in some of the structures of the body, constituting the starting point of various neoplasms, malignant and benign.

3. In the development of certain blood diseases, such as syphilis, gout, etc. It is in the second-class the feeblest and most ill-defined of these manifestations that cancer must be placed, a position which it shares in common with some of the simplest growths. It must be remembered, too, that only a small proportion of cases is hereditary. The process by which cancer is disseminated and developed as secondary growths is now well understood.

Instead of being a feature indicative of a blood disease characterized by outbursts in various localities, it becomes an argument against the older theory of a blood origin of the disease. It is simply a process of progressive infection from the primary growth.

If it were a blood disease with the system in a state of "general cancerous tension," as expressed by Mr. Simon, it would seem to be inevitable that the usual seats of election would be the points attacked in any growths that might follow the first. It is a curious fact and a strong argument against the theory that this seldom or never occurs.

That cancer returns after operation in an immensely large proportion of cases we all know. And this constant tendency to return constitutes the most conclusive evidence of the fact in the minds of those who look upon it as a blood disease. An interval of months or years may intervene between the time of operation and recurrence. What is the pathological status during that time. The patient's health is good. There is no cachexia. We must assume that the germs deposited from the primary growth have remained inactive; or, if it be regarded as a blood disease, the blood remains quiescent in spite of the fact that the blood condition had been sufficiently active already to lead to an outburst.

But, as stated before, its reappearance in obedience to a diathetic force, should logically take place at some of the usual sites of election. In 520 cases observed by Mr. Sibley at the Middlesex Hospital, this was not found to be the case in a single instance; but the recurrence took place in tissues not ordinarily the seats of primary cancer.

The mere fact of recurrence can have but little weight, since it is no more striking than in keloid, and has been observed in other simple tumors. A careful review of all the facts goes to show that the germs of the disease already deposited at some point are the source of the new development—their inactivity in the interval being due to causes not understood by us.

To conclude, the modern views may be summarized as follows:—(1.) All malignant growths are primarily local in origin. (2.) While admitting a constitutional tendency to their development in a limited sense, it is in the same sense and no other that it applies to the development of benign tumors—as chondromas, lipomas, papillomas. (3.) Long protracted irritation from any cause may lead to vicious cell action and development of malignant growths—independent of the existence of the diathesis. (4.) The infectiousness of cancer is mainly due to histological characteristics favoring dissemination of germs, rather than to any inherent zymotic quality of spermatic influence as suggested by Creighton. (5.) The recurrence of malignant growths long after removal is due not to a new outburst, as it were, of the original cancerous dyscrasia, but to the slow development of germs, thrown off from the original tumor, and remaining in the system either at the site of the operation or elsewhere. (6.) To argue that heredity, recurrence after operation, or infectiousness, one or all, proves a constitutional origin, proves too much, since all these may be alleged of benign tumors. (7.) Lastly, early removal of suspicious growths, indeed of all neoplasms, as so earnestly urged by Prof. S. D. Cross, gives the best assurance of complete immunity or postpones longer the return.

RESPIRATORY ORGANS.

ON THE SURGICAL TREATMENT OF GANGRENE OF THE LUNG.

By CH. FENGER, M. D., of Chicago.

From the *Jour. Amer. Med. Ass'n*, July 19, 1884:—Since Mosler's drainage of tuberculous cavity, pulmonary surgery has received considerable attention. Clinical observations have been made by Mosler, Pepper, Koch, Bull, Hollister, and myself, and the subject has been studied in an experimental way by Gluck, Schmidt, and Bloch. In 1883, Bull, of Christiania, was able to tabulate 19 cases where operations had been performed for various kinds of pulmonary cavities. I shall limit my remarks here to cases of acute pul-

monary gangrene. Acute gangrene of the lung, is either diffuse or circumscribed. Diffuse pulmonary gangrene has never as yet and probably never will be interfered with surgically. Circumscribed pulmonary gangrene, runs a more chronic course, its symptoms are less grave, and the patient, often for many weeks, retains sufficient strength to bear the strain and shock of an operation. In this respect surgical interference is justifiable. It has, indeed, been thought of and resorted to four times within the last five years by men in different countries, and more or less independent of each other, not having any accurate knowledge of each other's doings in this particular department of our science. Spontaneous recoveries may take place, but how often they do so and under what circumstances, is altogether unknown.

The prognosis of acute circumscribed gangrene of the lung is, of course, always grave. In any given case it is, during the whole course of the disease, impossible to foretell whether it will terminate in death or in recovery. A diffuse pulmonary gangrene, a gangrenous pyopneumothorax may supervene at any time, or the patient may die of exhaustion due either to the progressive local destruction, or to the accompanying fetid bronchitis. The internal remedies at our disposal at the present time can hardly be said to have any effect as far as regards checking the progress of the disease. They merely add aid in sustaining the patient, in keeping him alive till the gangrenous process has come to end.

These facts, well considered, seem to justify the attempt to cure the disease by surgical measures; by them alone can we hope to put a stop to the progress of the local gangrenous destruction.

Dr. Fenger then repeats the recorded histories of three cases in which surgical interference has been resorted to, and follows with the history of a successful case under his own care:

A man, 45 years old, was admitted to the Middlesex Hospital, December 30, 1878. He had previously been laid up for five weeks with an acute pneumonia of the left lung. At the time that he entered the hospital he presented the usual symptoms of pulmonary gangrene with formation of a cavity in the lower lobe of the left lung. The general condition of the patient was not at all favorable for an operation. After an exploratory puncture had confirmed the diagnosis, Mr. Lawson made an incision.

These cases, though only four in number, showing two deaths and two recoveries, satisfactorily prove to my mind that opening a pulmonary cavity in acute cases of circumscribed gangrene of the lungs, is a justifiable operation. In not one of the above cases did any mischief, or even any inconvenience to the patient, result from the operation. On the contrary, the immediate effect of the operation was a very decided improvement in the condition of the patient, even in the two fatal cases. The distressing cough was, in every one of these four cases, greatly diminished at once.

A few words concerning the operation itself and the after-treatment.

Operation.—We should operate as soon as the physical signs of a cavity have become manifest. We should not operate (for anatomical reasons) when the cavity is covered by the scapula or is situated in the apex of the lung. The location of the cavity should be ascertained by making an exploratory aspiration with a fine needle. The opening into the cavity should be made at the spot where the cavity comes nearest the surface; for we injure as little lung tissue as possible, and should also have the shortest possible canal into the cavity. Besides, we may reasonably expect to find pleural adhesions where the cavity is most superficial. These will prevent the operation from causing a pyopneumothorax.

The incision should be made parallel with the ribs, one or more of which should be resected if necessary. It is essential to have free access to the cavity, both for the immediate digital exploration made for the purpose of removing large pieces of dead pulmonary tissue, and for the sake of having a wide canal (subsequently) into which sufficiently large drainage-tubes can be introduced. Experience has shown that these canals are liable to contract and close up before the pulmonary cavity has become obliterated.

The canal leading through the pulmonary substance into the cavity, is best made by means of the thermo-cautery, as was proposed by Albert and Koch.

The small burner of Paquelin's cautery should be gradually worked in through the substance of the lung along a detached hypodermic needle, which is used as a guide. Working slowly with the red-hot cautery will produce no disturbing hæmorrhage from the pulmonary parenchyma, and the canal can easily be enlarged to such size as may seem convenient. Having reached the cavity, we should explore it with the index finger; if large and detached pieces of lung-tissue are discovered, we should remove them with a pair of forceps, being very careful to avoid causing any hæmorrhage by tearing off still adherent shreds of pulmonary tissue.

Whether it is advisable or not to make a counter-opening for the sake of facilitating draining and washing out of the cavity, can as yet hardly be stated. It has not been tried in any of the cases in which operations were performed for pulmonary gangrene. A knife, trocar, or some blunt instrument may well be used for opening a cavity which is situated close to the surface of the lung. But in cases where any amount of parenchyma has to be perforated, the thermo-cautery is by far the safer instrument.

The cavity should be washed out with some antiseptic solution if practicable; but great care should be exercised in doing so. If the cavity communicate with a larger bronchus, and we allow the solution to run in freely, we may, especially during the chloroform narcosis, be so unfortunate as to fill the bronchi of both lungs to such an extent as to produce suffocation. Moreover, injections of even a small quantity of fluid, the nature of which seems to be rather irrelevant, is, in some cases, followed by a fit of coughing sufficiently vehement to produce hæmorrhage from the walls of the cavity. We should, therefore, allow a little fluid only, and that under low pressure, to run into the cavity at a time, and closely watch the effects thereby produced in the patient. It may be that simply draining the cavity without any washing out, is sufficient to secure the beneficial effects of the operation.

A heavy antiseptic dressing should, of course, protect the wound. Septicæmia or pyæmia is just as likely to develop from a wound in the lung as from a wound in any other part of the body.

After-Treatment.—How often the dressings will require to be changed, will be indicated by the amount of discharge found in them. In the beginning the wound will probably require dressing every day; later on, less often will be sufficient. Daily washing out of the cavity may be desirable, but does not seem to be essential. As mentioned above, it had probably better be omitted if followed by violent coughing. The internal treatment should be carried on in accordance with the principles commonly laid down for the treatment of the disease in question.

THE REMOVAL OF NASO-PHARYNGEAL FIBROMATA BY THE GALVANO-CAUTERY, OR STEEL WIRE ÉCRASEUR.

By E. FLETCHER INGALLS, M.D., Chicago, Ill.

From the *Chicago Med. Jour. and Examiner*, June, 1884.—Naso-pharyngeal fibromata usually have their origin in the periosteum which covers that portion of the base of the skull forming the roof of the naso-pharynx. These tumors may extend downward into the mouth, forward into the nasal-cavity, or upward, perforating the cranium and pressing upon the brain. When large, they not infrequently send off prolongations into the maxillary sinus, and in some cases the frontal and sphenoidal sinuses are involved, consequently in some instances great deformity of the face results. Owing to the obstruction thus caused, respiration and deglutition may be seriously interfered with, and in consequence of the pressure, the senses of hearing, sight, and smell are more or less impaired.

The growths are hard to the touch, and are usually rounded, having a smooth surface, slightly lighter in color than the surrounding mucous membrane; sometimes, however, and particularly when the nasal cavities are involved, these tumors are lobulated in form. Some of them grow slowly, but in other cases they increase in size with great rapidity; and, unfortunately they are quite liable to return after removal.

Various forms of treatment, such as electrolysis, the local application of chemical agents, have been tried, but nothing short of a complete destruction of the growth by operative measures can give satisfactory results. The operation usually recommended by surgeons, consists in tearing or gouging out the tumor after access to it has been obtained, by removal of the hard and soft palate, or of the superior maxillary bone, the latter being the procedure generally resorted to; but, within a few years rhinologists have demonstrated the practicability of a much safer operation, which has thus far been attended with better results than when the maxilla, or palate has been removed.

This operation is performed with a galvano-cautery, or steel wire *écraseur*, the loop being passed through the nostrils in some cases, and in others through the mouth and up behind the soft palate. Within the past two years I have operated on five cases of naso-pharyngeal tumors by this latter method, and with better results than could have been obtained by excision of a part or the whole of the superior maxillary bone.

From my experience in these cases, I believe that either with the galvano-cautery or with the steel wire *écraseur* the great majority of these tumors may be completely removed, and, as has been shown by Dr. R. P. Lincoln, of New York, if their bases are thoroughly cauterized with a hot wire, they are not likely to recur. As illustrated by two of my cases, although they often recur the subsequent growth may be very small in comparison with the first, and after a short time it may become quiescent.

The results thus far are certainly in favor of this method of operating in most cases of naso-pharyngeal fibromata over that usually advised by surgeons. The advantages are, that this leaves no scar; the tumors are less likely to recur, and the risks to the patient are infinitely less.

CIRCULATORY ORGANS.

A CONTRIBUTION TO THE HISTORY OF LIGATION OF THE COMMON FEMORAL ARTERY.

By L. McLANE TIFFANY, M.D., Prof. of Surg. in the Univ. of Maryland.

From the *Med. News*, July 5, 1884:—Last summer it was my fortune to have to deal with a large aneurism of the femoral, extending upward to within two or three inches of Poupart's ligament, and while pressure, with rest, was being tried to effect a cure, I very naturally turned to the recorded experience of others, with the intention of tying the common femoral artery, if pressure failed. The first author my hand lighted upon said that, while he preferred to tie the external iliac rather than the common femoral for aneurism high in the thigh, yet he was not prepared to condemn a further trial of the common femoral. My next author was more favorable, for by him the common femoral was preferred to the external iliac. My third author condemned the operation unhesitatingly as not fit to be done, and from the state of depression in which I now was, nothing aroused me until I put my eye on author No. 4, who says that it is the duty of the surgeon to tie the common femoral in preference to the external iliac. I therefore, with care, returned my four advisers to their shelves, and tied, according to my original intention, the common femoral of my patient, who recovered with rapidity both from his aneurism and his doctor. Dr. Tiffany gives the history of his case and continues:

I venture say that there are few operations in regard to which so many divergent opinions are expressed by competent men. From unqualified condemnation to unqualified praise there is an easy gradation of advice and opinion not only from those who have neither performed nor seen the operation, which need cause no surprise, but singularly enough even from those who have themselves operated. The Irish surgeons approve of the operation, notably Porter, who gives three cases with recovery, and so well describes the

anatomy of the locality, etc., as to justify the expression used—"Porter's operation." English surgeons, with scarcely an exception, do not favor the operation. Macnamara favors the operation and reports cured cases including one of his own. Erichsen is strong in opposition. Holmes approves the measure rather than to tie the external iliac, while Bryant requires more experience before recommending it. Pemberton is the most pronounced in favor of the measure of all surgeons who have written. American surgeons, with but one brilliant exception, consider the operation injudicious and inexpedient. Mott is the exception, and he says, "some surgeons have doubted the propriety of tying the artery between the giving off of the profunda and the origin of the epigastric. We have, however, several times put a ligature here, and in every instance with success." This is very strong endorsement.

Continental surgeons are generally not in favor of the operation. The most exhaustive article with which I am acquainted is by Rabe, with an analysis of one hundred and seventy-eight ligations of the common femoral for all causes. In this elaborate summary of our knowledge up to the time of its publication, 1875, a comparison is instituted between ligations of the large arteries of the lower extremity in regard to secondary hemorrhage and gangrene as affecting the general mortality, the outcome being not favorable for the common femoral ligation. Unfortunately, the Irish cases have escaped due credit, Porter being omitted, as also Smyly. Laugier is entirely omitted with two successful cases. An unsuccessful case by Gelston is likewise omitted.

For aneurism, the vessel under discussion has been tied but a very few times, the enormous majority of ligations being for hemorrhage following traumatism, and Rabe, after collecting and analyzing 540 ligations of the superficial femoral, 178 of the common femoral, 207 of the external iliac, and 27 of the popliteal, for all causes, makes use of the following language: "It is necessary to add that neither of these ligations, in case of traumatic hemorrhage, performed at a distance, prevents more surely the one than the other the recurrence of hemorrhage," a sentence which conveys the highest compliment to the teachings and opinions of Guthrie, that most competent surgeon. Rabe disapproves of tying the common femoral, advising that either the superficial femoral or the external iliac should be secured. Dr. Tiffany then gives a resumé of the subject as presented in the History of the War, and concludes his paper by saying: From the study of recorded cases I am led to the following conclusions:

1st. Ligation of common femoral in continuity for distal wound is attended with great mortality, and should not be substituted for the application of ligatures to an artery above and below the point wounded.

2d. Ligation of common femoral for elephantiasis or aneurism, is proper.

3d. The crural sheath should be freely opened and the vessel carefully examined for the origin of the profunda and epigastric, the ligature not to be tied within a half or three-quarters of an inch of either.

4th. Half or three-quarters of an inch below Poupart's ligament will probably be the most favorable locality for the ligature.

5th. The presence of a small branch near the seat of ligature does not contraindicate the operation; such branch should be also tied.

ALIMENTARY ORGANS.

GUN-SHOT WOUNDS OF THE SMALL INTESTINES.

By CHARLES T. PARKES, M.D., Prof. of Anatomy in Rush Medical College, Chicago, Ill.

From the *Jour. Amer. Med. Ass'n*, May 31, 1884.—In a rather quaintly-written but richly-laden book on surgery, by Herr L. Heister, Professor, etc., written in 1730, there occurs this passage:

"When the intestines are wounded but not let out of the abdomen, and therefore their wounds are out of reach, the surgeon can do nothing but keep a tent in the external wound, according to the rules laid down at Chap. V,

and after this bleed the patient if his strength will admit of it, advising him to rest, eat abstemiously, and to lie upon his belly; the rest is to be left to Divine Providence and the strength of his constitution. But the question may be asked here whether a surgeon may not very prudently, in this case, enlarge the wound of the abdomen, that he may be able to discover the injured intestine and treat it in a proper manner. Truly I can see no objection to this practice, especially if we consider that upon the neglect of it certain death will follow, and that we are encouraged to make trial of it by the successes of others. Sacherus, in *Programmate Publico*, Lipsiæ, ed. 1720, mentions a surgeon who performed this operation successfully."

A period of 100 years and more has rolled away since Dr. Heister published his belief and reported recovery, to the time when Dr. Sims expresses his convictions—over a century of doubts, timidity, uncertainty, and gloomy misgivings, lightened only occasionally by some bold and resolute assertions. The future asks for action, and it is not unreasonable to assert that careful trials will accomplish successful results.

Avoiding any spirit of dictation, it seems proper to tabulate the following conclusions as an outgrowth of the experiments, made with the valuable assistance of Mr. J. McDill and Drs. Anthony, Freer, and Bolles:

1st. Hæmorrhage following shot wounds of the abdomen and the intestines, is very often so severe that it cannot be safely controlled without abdominal section; it is *always* sufficient in amount to endanger life by secondary septic decomposition, which cannot be avoided in any other way than by the same treatment.

2d. Extravasations of the contents of the bowel after shot injuries thereof are as certain as the existence of the wound.

3d. No reliable inference as to the course of a bullet can be made from the position of the wounds of entrance and exit.

4th. The wounds of entrance and exit of the bullet *should not be disturbed* in any manner, except to control bleeding or remove foreign bodies when present. They need only to be covered by the general antiseptic dressing applied to the abdomen.

5th. Several perforations of the intestines close together require a single resection, including all the openings. Wounds destroying the mesenteric surface of the bowel always require resection.

6th. The best means of uniting the wounded intestine after resection is by the use of fine silk thread after Lembert's method. It must include at least one-third of an inch of bowel tissue, passing through only the peritoneal and muscular coats, never including the mucous coat. The everted mucous membrane must be carefully inverted, and needs no other treatment.

7th. Wounds of the stomach, small perforations, and abrasions of the intestine, can be safely trusted to the continued catgut suture.

8th. Every bleeding point must be ligated or cauterized, and especial care devoted to securing an absolutely clean cavity.

9th. The best method of treating the stumps of divided mesentery is to save the mesenteric surface of the bowel as above indicated.

10th. *Primary abdominal section* in the mid-line gives the best command over the damage done, and furnishes the most feasible opening which the proper surgical treatment of such damage can be instituted. Farther, its adoption adds but little, if anything, to the peril of the injury.

11th. Is not the moral effect of the assurance to the patient, that he will be placed in a condition most likely to lead to his recovery, a good substitute for the mental depression accompanying the general and popular conviction that these wounds mean certain death?

ON EXCISION OF THE TONSIL.

By G. STERLING RYERSON, M.D., L.R.C.S., E., Lect. on the Eye, Ear and Throat, in Trinity Med. Coll., Toronto.

From the *Canada Lancet*, July, 1884.—The question, "When should a tonsil be excised"? is an exceedingly practical one. The answer it would be well if possible to define precisely. The indications for excision are the

presence of symptoms either of impaired nutrition with marked obstruction to respiration, frequently relapsing, inflammation or suffering in the contiguous parts.

Marked enlargement of the gland is almost sure to be accompanied by impairment of the general health. Obstruction to respiration is a serious matter in the young, inasmuch as it causes the deformity of the chest, known as "pigeon breast." These symptoms demand the removal of the offending gland. The Eustachian tube and middle ear are very apt to suffer from inflammation by contiguity. The nasal mucous membrane also may, and frequently does present symptoms of severe inflammation and consequent obstruction of the nose. These symptoms also demand most urgently the removal of the tonsil.

Tonsils, the seat of chronic relapsing inflammation, should be removed. Also cases of true pathological hypertrophy of the tonsil are best treated in the same way, medicinal treatment being nugatory. The tonsils are frequently enlarged in strumous and delicate children; if there be no symptoms as before related, they are best left and treated by internal remedies, prominent among which are syr. of the iodide of iron and compound syrup of hypophosphites. Local astringents may also be used with benefit. In cases of follicular tonsillitis it is not often necessary to remove the gland. Local treatment with fused nitrate of silver on a probe applied to each follicle is generally successful. Mere enlargement of the gland without other symptoms, I do not consider to indicate its removal.

With regard to the mode of operation, the cases must be selected. For large, prominent tonsils, especially in children, the tonsillitome is best suited. In moderately enlarged and very hard tonsils, in true hypertrophy and in the long, flat-shaped tonsil, the vulsellum forceps and blunt bistoury should be used. It is almost impossible, however, to use the bistoury in the case of young children, without an anæsthetic. I do not regard the danger of hemorrhage as a very serious one. It is very rare, and it can be controlled by pressure on the artery, local tampon, or in extreme cases by ligature of the carotid. It is most dangerous in children who do not know enough to assist the operator.

THE AFTER-TREATMENT OF GASTROSTOMY.

By G. E. BRUSHNELL, M. D., Assistant Surgeon, U. S. A.

From the *N. Y. Med. Jour.*, July 19, 1884:—An examination of the after-history of patients subjected to gastrostomy when much reduced by starvation often leaves the student in doubt whether any benefit has been derived from the introduction of food into the stomach after the operation. Those who escape the dangers of the operation soon die of exhaustion, for which the progress of the primary disease does not always furnish an adequate explanation. The progressive failure of the vital powers is largely to be ascribed to the difficulties which the enfeebled stomach encounters in resuming its functions. Peristalsis is interfered with by the stitches and the broad adhesions. Adhesions are a well-recognized cause of dilatation, and the starved stomachs of gastrostomized patients must be peculiarly unfitted to overcome such hindrances to their activity. The exposed portion of the organ becomes more or less inflamed from exposure to the atmosphere and the irritation of the wound discharges. Its circulation is impeded by the stitches which surround it. The circulation of the entire stomach becomes less active proportionately with the diminution of the muscular contractions. Statistics showing four deaths from gangrene of the stomach in one hundred and thirty-seven cases of gastrostomy (Professor S. W. Gross, *Medical News*, December 1, 1883,) prove that it may even be completely arrested. The innervation of the stomach is probably affected by the irritation of the stitches and the unwonted exposure to the air. Amid such disturbance neither the secretion of gastric juice nor the absorption of peptones can be expected to take place normally. There is danger that food will gravitate into the splenic end of the organ and remain there to ferment.

That stagnation of the stomach contents does often occur has been shown in the history of many cases. To avoid this, and to assist the feeble digestive powers as much as possible, I would make the following suggestions, derived for the most part from the treatment of dilatation of the stomach: Let all food be thoroughly converted in peptones before administration. After forty-eight hours place the patient upon his right side after feeding, that the food may gravitate toward the pylorus.

As an experiment, it would be well to add hydrochloric acid to the food, if Leube's view is correct—that it is increase of acidity which enables the contents of the stomach to pass the pylorus. Wash out and empty the stomach frequently by means of siphon. To spare the stomach, supply the water needed by means of enemata. It is, perhaps, worth noting that my patient, who received a quart of water daily *per rectum*, with bits of ice to suck *ad libitum*, never complained of the thirst which surgical writers speak of as adding so much to the sufferings of œsophageal stricture.

URINARY AND GENERATIVE ORGANS.

VARICOCELE AND ITS TREATMENT.

By T. G. RODDICK, M. D., Prof. of Clin. Surg., McGill Univ., Montreal.

In a paper published in the *Canada Med. and Surg. Jour.*, June, 1884, Dr. Roddick says:—The condition known as varicocele, or varix of the spermatic veins, is usually regarded as a trifling affection. We have very strong evidence, however, to prove that this affection is not so trivial, but that for many reasons it often deserves and demands the surgeon's earnest consideration. The author of the paper then quotes from Curling, Barwell, Erichsen, Van Buren, and Keys, to prove that varicocele in its more aggravated form is capable of inducing serious pathological changes in the testicle, and hence frequently demands surgical interference.

But even if these changes were not so serious—if it were only for the relief of the pain, dragging sensation, and mental worry which varicocele so often induces, operative measures would still be justifiable. Besides, a very small varicocele often debars the possessor from exercise needful to health, and is a frequent cause of disqualification from active military service.

I have alluded to the fact that the presence of varicocele has often a most depressing influence, and I know few affections in which the attention of the person is so concentrated upon his malady as in this. The constant weight in the scrotum, and the perpetual aching pain up the cord, into the groin and down the thigh, tends to direct his thoughts to his ailment, and his life is in consequence often rendered miserable.

It must be remembered, also, that the necessity for operation does not depend so much on the size of the varicocele as on the symptoms it produces. Thus in varicoceles of large size, the pain and discomfort are sometimes very slight; whilst in others, comparatively small and insignificant, the distress is often very great.

As to the *treatment* of varicocele, I am decidedly of the opinion that any or all of the palliative measures usually recommended should have a faithful trial, namely, cold bathing, the suspensory bandage, the truss, etc., but if these fail to remove the trouble, and the symptoms continue after a year or two, I do not hesitate to perform one or other of the following operations:—

The first is the least formidable of the two, is, in fact, Ricord's operation, and consists in the introduction, in opposite directions, of two loops of wire—one between the vas deferens and the veins, and the other between the veins and scrotum—the free ends being passed through the loops, so that when drawn taut, the latter completely encircle the veins and constrict them. The books recommend us to keep up the pressure on the veins by tightening the wires from day to day over a piece of cardboard or a pledget of lint. This, however, will be found to annoy the patient, and from fre-

quent twisting the wire will sometimes break. I prefer, therefore, to attach a piece of rubber tubing to the wires on either side and pass this round the body. In this way the pressure on the veins is made more equable and constant, and the parts need not be disturbed for days together. Of late I have practiced a little device which completely obviates the difficulty occasionally encountered in removing the wires. It consists in attaching to the loop of each wire a short loop of the same material, by pulling on which at any time the main wires can be separated. Mr. Tufnell of Dublin suggested this slight, but not unimportant, modification of Ricord's operation over twenty years ago. An anæsthetic is seldom required for this operation, although, in the case of a delicate, nervous person, it may be well to give ether, the scrotum being made dependent by bringing the patient's hips well over the edge of a table. Where an anæsthetic is not used, however, the best is the standing position. The time required for the division of the veins or their complete closure varies from ten to fourteen days, depending on the age of the patient and the size of the varicocele. I may say that I have performed this operation now seven times, with one failure. In none of the cases was a single unfavorable symptom noticeable.

The other operation is a more formidable one, although not by any means difficult. It is one of the outcomes of Lister's teaching, and is not justifiable unless performed with the strictest antiseptic precautions, including the spray. It consists in making an incision about an inch and a half in length directly over the varicocele, and commencing about half an inch below the external abdominal ring. The veins are then carefully separated from the vas deferens by means of the fingers, ligatured with catgut above and below, and divided by scissors between the ligatures. A small drain, either of rubber or catgut, is placed in the wound, and two or three sutures applied. The parts should then be carefully enveloped in the gauze dressing, care being taken to prevent the urine from contaminating the wound. An anæsthetic should be given, the patient's hips being brought over the edge of the table, and the slight pressure applied over the external abdominal ring.

Dr. Roddick then gives the notes of three cases, and that he had an opportunity of examining two of these cases some months after operation, and was pleased to find no trace of the varicocele, and there were none of the original symptoms presents. For a month or more after the operation the patient should wear a suspensory bandage.

PROSTATIC CALCULI.

By CLAUDIUS H. MASTIN, M. D., of Mobile, Ala.

From the *Med. News*, Aug. 16, 1884:—Renal and vesical calculi have, from the earliest history of our profession, offered a fertile field for pathological research; and those minute concretions which form within the follicles of the prostate gland—although differing in their chemical constituents, and manner of formation from urinary calculi—have proved especially interesting, since their true cause has, as yet, not been thoroughly understood.

These minute concretions being at first almost microscopic in size, gradually increase, yet rarely acquire any considerable dimensions; seldom becoming larger than an ordinary pea. Still they aggregate in considerable numbers, studding the follicles of the gland, or when increasing in size, they break down its parenchyma and collect in distinct cysts. They increase in size doubtless from a deposition upon their surface, and when not escaping from the follicles they induce absorption of the tissue by direct pressure, and thus come into contact, forming considerable numbers collected together in one or more distinct pouches. Usually we find several calculi, each seated in a separate duct; these are generally quiescent and give no evidence of their presence; doubtless they frequently escape along the ducts of the prostate into the urethra and the bladder, and are washed out by the urine. Again, numerous concretions increasing in size collect together in a cyst, attain quite large dimensions, light up considerable irritation and inflammation, produce severe constitutional disturbance, terminating in ab-

scess with ulceration, and are discharged either through the rectum or the perineum. It is possible that sometimes they may find their way into the bladder, and if not discharged with the urine may become the nucleus of true urinary calculus: this, however, is not probable, since we seldom if ever find calculi having a phosphatic nucleus encrusted with the lithates.

The accepted opinion as to their formation is, they have their origin in an oval vesicle of a single wall of homogeneous membrane, which is occupied by a colorless, finely mottled substance, in the centre of which, a nuclear corpuscle occurs. Their mean diameter being about $\frac{1}{1000}$ th of an inch, until gradually increasing in size, the envelope still being visible, the amorphous matter begins to be arranged in layers concentric to the cell-wall; still further on in their development, the vesicles gradually increase in size, until their diameter reaches $\frac{1}{100}$ th of an inch, or even more, continuing to show the concentric layers, which are now more developed on one side than the other, seeming like so many repetitions of the original envelope, the intervals between the layers being occupied by a finely mottled deep yellow or red substance. There is, within them, a central cavity which corresponds to their external contour in form, being triangular or quadrilateral with rounded angles.

Such is their usual and normal appearance, from which, however, there are numerous variations showing a change of form and internal arrangement which makes them seemingly to occupy an intermediate position between organic growths, and inorganic concretions: like the former they are vesicular in their origin, and in their gradual growth, which appears to take place chiefly from the dilatation of the vesicle and successive deposition in its interior; on the other hand, they simulate inorganic substances in their shape, in their tendency to become infiltrated with earthy matter, and in their disposition to pass into the condition of a dead amorphous mass of a deep yellow, almost black substance.

It is a little remarkable that their chemical composition varies in the various stages of their development, and is, at all times, widely different from either renal or vesical calculi. At first they consist of little else than animal matter, gradually acquiring, but only when in a state of degeneration, calcareous salts, which, according to the analysis of a number of chemists, and especially that of Lassaigne, is—in 100 parts: Basic phosphate of lime, 84.5; carbonate of lime, 0.5; animal matter, 15.0.

Dr. Mastin then referred to Dr. T. Herbert Barker's case, in which the prostatic stone, or rather collection of calculi fused, weighed 1,681 grains Troy; another specimen in the Museum of the Royal Coll. of Surgs., London, weighing 575 grains; and closes his paper with the history of a case under his own care in which the concretion was *single*, and weighed 430 grains Troy. It was removed by perineal section.

A CASE OF GONORRHOEA WITH COMPLICATIONS AND SEQUELS.

By J. EDWIN MICHAEL, A.M., M.D., Prof. of Genito-Urinary and Rectal Surgery in the Baltimore Polyclinic.

From the *Maryland Med. Jour.*, June 21, 1884.—Gonorrhœa is well known to produce certain complications and sequels which are extremely interesting from the pathological point of view, and are much more serious, as far as the patient's welfare is concerned, than the original complaint. It is rather rare, however, that a single case shows in such complete array the possibilities of the disease, as the one following.

Remarks: In reviewing the history of the case we see a succession of evils not usually noted in one case. First we find periurethral abscess a very rare condition, then prostatitis and epididymitis, and these followed after a considerable lapse of time by stricture. The association of epididymitis with prostatitis is not uncommon and the anatomical relations of the parts affected makes the explanation easy. If epididymitis is, as it seems to be the most generally accepted as well as the most rational view, an extension by continuity of the gonorrhœal inflammation by way of the vas deferens, it is but natural that the prostatic tissues should participate in the inflam-

tion. The occurrence of the small painful swellings is unaccountable to me. They were, as mentioned, small, painful swellings, which existed in the skin as well as under it. Those on the surface were dark red, somewhat livid in color, firm and elastic to the touch and quite sensitive. They disappeared without treatment in about three days, leaving no trace. I could not associate their occurrence with any phase of gonorrhœa with which I am acquainted, nor attribute them to any of the medicine exhibited. I would also call attention to the advantage of the ol. santali. It was particularly useful in this case, since the copaiba had produced its characteristic nauseating effect. I have used it a great deal in gonorrhœa, especially when associated with vesical irritability and even in actual cystitis with very pleasant effect. Its administration is somewhat difficult, as it does not mix readily with the ordinary menstrua. In this case I gave it on sugar, a method which would not always be tolerated. It may be given in capsules also. After many failures I have devised the following mixture, which has often done me good service:

R. Ol. santali, liq. potassæ, spts. aeth. nit., tr. cinnamom., aa f ʒss.; mucilag. sem. lini, f ʒjv. M. Sig. Dessertspoonful t. i. d.

SOME FACTS IN CONNECTION WITH GONORRHŒA.

From the *Medical Age*, Aug. 10, 1884.—Gonorrhœa is a subject of great interest, and yet there seems to be no uniformity of opinion in the profession, regarding the most effective means of restoring the infected urethral tract to its normal condition. This unsatisfactory status of therapeutic views is, doubtless, very largely owing to the difference in opinion which prevails touching the more exact etiology of the affection and the pathological changes which characterize the fully-developed disease. In view of this status any observations calculated to throw light upon obscure or disputed points, will be of interest, and for this reason a paper read before the Philadelphia County Medical Society, by Dr. J. William White, on the subject of gonorrhœa, is more than ordinarily valuable. Dr. White refers to the two opinions which exist touching the nature of gonorrhœa. According to one of these, the disease is the result of a specific poison, while the other holds that it may arise also from the contact of any form of pus. As antagonizing the view which regards it as a specific inflammation of the urethra, we have the facts that it has no fixed period of incubation, the disease being liable to supervene at any time from a few hours to many days after exposure. One attack, moreover, does not protect against a second attack, as in the case of diseases of whose specificity there is no question. Specific diseases also run a definite and self-limited course, and as a rule have some characteristic lesions, in which respects gonorrhœa again differs. The argument most powerful against the view that the disease may result from contact with purulent discharge, is in the fact that husbands may for an indefinite period have licit indulgence without infection, with wives who are afflicted with purulent leucorrhœal discharges. Ricord attributed this immunity to a sort of acclimation, but this explanation will not meet the case of newly-married men, whose wives are troubled with purulent leucorrhœa. Probably pus is not poisonous in itself, but as it exists in the discharges of leucorrhœa, may take on virulent character through excesses and irregularities, or through other disturbing causes on the part of the woman.

Dr. White distinguished three forms of gonorrhœa: (1) The acute inflammatory form. (2) The subacute or catarrhal form, and (3) The irritative or abortive variety. In the first form ardor urinæ and chordee are prominent symptoms. Ardor urinæ has been attributed to stretching of the urethra, and also to the irritative effects of the ingredients of the urine. The latter is the most probable cause, as seen in the fact that alkaline diuretics, which increase the quantity of urine, diminish also its acidity, and by the latter action diminish the pain. Various theories have been proposed to account for chordee. That which is now the more generally accepted theory is that the trabeculæ of the spongy portion are obstructed with lymph, and in this way their equal distension with venous blood is prevented. The duration of the

acute form is not commonly less than three weeks, the stages being two—the acute stage, occupying a week, and the subsidiary, about two weeks. A very common error committed by young practitioners, is to give a too favorable prognosis in these cases—promising a cure in a few days.

Gleet and urethral stricture are most apt to follow the subacute, or catarrhal form, the symptoms of which are less violent than those of the acute variety.

It is because of the existence of the irritative or abortive variety of gonorrhœa that various plans of abortive treatment have achieved their reputations. Out of every thirty cases of the disease, perhaps four or five will never progress beyond the premonitory symptoms, when even only the expectant plan of treatment is pursued.

In this connection we take the opportunity of producing a prescription by Dr. J. Mortimer Granville, for a variety of urethral troubles known by the several terms ending in “-rhœa.” These affections are common underlying causes of “mind worry and nervousness.” When other remedies have failed in these cases, Dr. Granville has found an injection of a freshly-prepared infusion of saxifrage leaves to answer an excellent purpose. He prepares the infusion by adding one part of the leaves to ten of water, the temperature of which is 98 degrees Fahrenheit. To three ounces of this he adds one of glycerine, and uses the injection twice a day.

SYPHILITIC AFFECTIONS.

LARYNGEAL SYPHILIS.

By C. W. CHAMBERLAIN, M.D., of Hartford, Conn.

From the *New England Med. Monthly*, Aug. 15, 1884.—It is but recently that any definite knowledge has been obtained concerning the earlier manifestations of syphilis in the nose and throat and especially of those which occur in the larynx. In fact the existence of primary syphilis of the throat is considered as somewhat doubtful even now. Mackenzie states that there is nothing distinctive of syphilis in the primary congestions of the larynx, and has seen but seven cases of primary syphilis of the pharynx, one only in the ten thousand cases of disease of the throat he has tabulated.

There are other reasons for the late development of our knowledge relating to the earlier syphilitic lesions in the throat beside the difficulties of observation which were obviated by the invention of the laryngoscope. One is that the patient is seldom under observation from the outset of the disease, and the second, perhaps the principal, is that the lesions in the larynx especially do not always occur simultaneously with those in the skin and other tissues and organs of the body. In fine, there is no uniform invariable correspondence with the laryngeal lesions and the developments of syphilis in other portions of the system.

The tertiary lesions of the larynx may have been given undue prominence from the fact that they were well known, from the comparative frequency with which they have been observed and recorded both before and after the use of the laryngoscope, indeed monopolizing attention entirely prior to its use; and especially from the greater relative importance of the effects produced by them, and their permanency. While the reality of primary and secondary syphilis of the larynx is fairly proven, the existence of laryngeal syphilis is still considered an indication generally that the constitutional disease has been of long duration. Dana, in 1864, gave the first systematic account of the earlier syphilitic lesions of the larynx in a thesis, entitled “Eruptions of the Larynx in Syphilis.” He described a laryngeal roseola which was invariably synchronous with the roseola on the skin, and papular and tubercular eruptions in regular order. Several German observers from 1860 to 1866 had described secondary ulcerations and primary hyperæmias. Sibermann has since confirmed the primary roseola of Dana, diagnosing it in four cases coincident with the cutaneous roseola. In 1872, Ferras published his thesis on “Syphilitic Laryngitis.” From the irregularity of the laryngeal lesions already

mentioned, he denied the existence of a primary, secondary and tertiary stage in laryngeal syphilis and divided all varieties into two forms, either of which may accompany any stage of the constitutional disease; these were the ulcerating and the non-ulcerating. Mucous patches were so exceptional that they could be disregarded. He found but one instance in a hundred cases of laryngeal syphilis. His views have not been generally accepted.

There can be no doubt, however, that mucous patches occur in the larynx and that they are sufficiently characteristic to warrant a diagnosis of syphilis. They vary in appearance considerably with their location; those upon the epiglottis and arytenoid cartilages most resemble those upon the fauces, palate and tonsils, and have a somewhat opalescent appearance. They are about the size of a small shot or smaller, somewhat higher at the centre but rising evenly. Whistler compares their color to the stain of nitrate of silver, presumably the stain upon a mucous membrane. In other portions they are larger and with lacerated edges often appearing somewhat like an ulcer. Upon the vocal cords they usually have a linear appearance, their long diameter lengthwise of the vocal cord. Except upon the vocal cords the general outline is circular or oval. In catarrhal affections blocks of mucus sometimes resemble these mucous patches, but a brush easily removes the mucus and the resemblance no longer confuses. Mackenzie mentions condylomata as the most frequent and characteristic of the secondary syphilitic lesions of the larynx, but mentions chronic hyperæmia and superficial ulcerations as often encountered. Krishaber and Mauriac give a detailed account of fourteen cases where condylomata or mucous patches of the larynx occur. They describe them as small oval exfoliations of the mucous membrane with even or fringed borders, sometimes thickened or even vegetating; in other cases they appear as erosions surrounded by an opalescent zone. Mackenzie states that they have a somewhat yellowish hue and are not as clearly white as in the pharynx. The latter fact I have observed almost invariably; that they were of a more decidedly greyish hue, but I have never seen any yellowish tint; those upon the epiglottis and arytenoids, as before stated, in all the cases I have seen, resembling those of the pharynx most closely. In regard to the treatment of the earlier laryngeal lesions of syphilis but little need be said. I prefer the sulphate of copper as a local application; but little special treatment is generally required.

The frequency of syphilis of the larynx is not readily determined. The statistics are as yet incomplete, and those gathered have not been collated and compared, although the data are accumulating rapidly.

[It is with profound sorrow that we record the death of Dr. Chamberlain, which occurred Aug. 21, 1884. Ed.]

THE TREATMENT OF CHANCROID AND SYPHILIS.

By JOHN ASHHURST, Jr., M.D., Prof. of Clin. Surg., Univ. Penn.

From the *Proceedings of the Philadelphia Co. Med. Soc.*—If any constitutional treatment is demanded in chancroid, it is such as is indicated by the general condition of the patient. Chancroid requires local treatment, but as syphilis is a constitutional affection, its treatment is constitutional or general. Local treatment is required for certain manifestations of syphilis, but the treatment, *par excellence*, is constitutional.

Speaking first of the treatment of chancroid, we may recognize three plans which have been adopted:

First, that form of treatment which aims to abolish the whole thing at once, that is, by excision. There are certain maladies in which, by this plan, we can get rid of the disease entirely, as in the case of certain tumors. This plan has, however, been tried and found wanting.

The second form of treatment, and that which I advocate, is one which aims not to remove the disease at once, but to favorably modify its future progress. This is the treatment by cauterization. By destroying the surface of the chancroidal ulcer we remove its virulent qualities and leave a healthy granulating sore. The caustic application removes the tendency to spread, and converts the ulcer into a healthy granulating surface. In the choice of

a caustic, my preference is for fuming nitric acid, applied by means of a piece of soft wood, such as the end of a match stick. Every cranny should be cauterized: cauterization must be thorough if it is practised at all. When the slough, produced by the caustic, separates, the surface soon granulates and heals, but the pus is contagious to the last. If the fear of pain deter the patient from submitting to cauterization, general anæsthesia may be properly employed, or the surgeon may first make an application of carbolic acid, which produces local anæsthesia and apply the nitric acid afterward. It may be necessary to repeat the operation.

The material used by many practitioners a few years ago, the nitrate of silver, is inefficient, and, in my judgment, has nothing to recommend it. Then for the after-dressing, after cauterization has been employed, we can use plain water, or lime-water, or black-wash, or a solution of salicylic acid, or what is known as the "nitric acid-wash" (nitric acid f 3j; water Oj), which is much used as a dressing in New York. The dressing above all others which I think deserves attention is iodoform. It is a comparatively recent remedy in these cases, and I think that it is the best application that can be made after thorough cauterization has been effected. It can be used in various ways, by simply dusting the finely powdered drug over the surface, or as a wet dressing in the form of an alcoholic solution with glycerine, viz.: Iodoform 3ss; alcohol, f 3ij; glycerine, f 3vj. Or it may be used in the form of an ointment, xv to xxx grs. to the ounce, or as an ethereal solution. An old remedy, which formerly had great reputation in these cases, was aromatic wine, but I do not think it is as efficient as iodoform. Another remedy, which is quite a novel one, is resorcin, an article of the phenol series. Great advantage has been claimed for it. Pyrogallic acid has also been used, as has the subnitrate of bismuth and various other dry powders. In the female, dressings, of course, must be applied with the aid of the speculum.

In regard to the principal complication of chancroid, the bubo, it may be of two kinds, the simple or inflammatory bubo, which is nothing but an adenitis, or the true chancroidal or virulent bubo. I believe it to be impossible, when a bubo first makes its appearance, for the surgeon to say of which variety it is. Of late years I have seen many more examples of the simple than of the virulent bubo. Whether or not this is because the disease, like syphilis, is gradually becoming a milder affection than it was formerly, I cannot say.

In regard to the treatment of bubo, the surgeon should enforce rest in bed, if possible. Then counter-irritation should be employed very thoroughly. The best way is that suggested by Mr. Furneaux Jordan, of Birmingham, by applying the counter-irritant to the "next vascular area." The theory is that by irritating an adjacent part, the blood is caused to flow away from that originally affected. Counter-irritation is best effected by applying the tincture of iodine in the form of a broad horseshoe around the inflamed gland, every day or every other day, so as to keep the part on the verge of vesication. The skin should, if possible not be broken, but if it so, some soothing ointment must be applied, and the use of iodine suspended for a days. Over the bubo itself, the dressing which I have found most satisfactory consists of equal parts of belladonna and mercurial ointments; it is a simple resolvent and anodyne application, and is agreeable to the patient. I have also used an ointment of iodoform over the part, but do not think it as efficient as the belladonna and mercury; nor do I think the application of blisters as satisfactory as the use of iodine. Pressure is another remedy which may be properly employed when the bubo is not painful, but which is ill-adapted to the acute inflammatory stage. If the bubo suppurates, of course it should be opened. Various plans have been suggested, but I do not think there is anything as efficient as a moderately free incision; and the direction in which this is made is a matter of considerable importance. I find that practitioners generally open buboes in the line of Poupert's ligament, but I think that an incision in the long axis of the patient's body is the best, supplemented, if necessary, by small transverse incisions on one or both sides.

The third plan of treatment, which is the fashionable treatment just now, is the use of simple dressings such as I have advised for the after-treatment, without employing caustics. There is no doubt that healing will, in most of

the mild, superficial chancroids met with at the present day, ultimately take place without cauterization, but I think the cure will be more certain, more rapid, and more likely to be free from complication, if the chancroid be cauterized in the way that I have recommended.

Treatment of Syphilis.—Syphilis is a constitutional affection and demands constitutional treatment. The principal remedies are mercury and iodide of potassium. These have been given for many years, and yet it has never been satisfactorily determined in what way they produce their effects. Probably it is the safest to say they act by eliminating the syphilitic poison and producing absorption of the gummatous and inflammatory deposits. No doubt, according to modern theories, they might be supposed to act by destroying syphilitic germs, but that suggestion opens questions in transcendental pathology into which this is not the time to enter.

In regard to the local treatment of primary syphilis, the principal point is cleanliness; but local treatment is not of much value. Iodoform may be used as a dressing for the chancre, as it may for the ulcerative lesions met with in the later stages of syphilis. Cauterization is of no service. I do not believe that secondary symptoms were ever prevented by cauterizing a chancre.

There is another form of treatment which has some evidence in its favor, and that is the excision of the chancre.

Until within a few years the view of surgeons was that a chancre should not be excised except under special circumstances, as when occurring on an elongated prepuce, but within recent years the excision treatment has been revived, particularly in Germany, and in this country it has been advocated by Dr. White and others. To those who, like myself, take the view that syphilis is a constitutional disease from the beginning, and that the initial lesion, chancre, is but its first manifestation, of course the excision treatment seems somewhat unphilosophical. I have no personal experience in this form of treatment, but the weight of evidence, from what I have been able to read concerning it, seems to me to be against it. This, moreover, appears to be the prevailing view.

As regards the bubo of syphilis, no special treatment is required, though I have sometimes thought that I have derived advantage from the application of iodoform ointment.

In the treatment of the secondary stage of syphilis, of course mercury is the great remedy. Iodide of potassium is used by some surgeons in the primary stage, but for secondary syphilis all are agreed to use mercury. It should be introduced gradually, to prevent salivation on the one hand and intestinal irritation on the other. I think the best way in which it can be used is by inunction.

In the tertiary stage of syphilis, iodide of potassium is the chief remedy. Mercury is useful in the treatment of the dry eruptions and of interstitial orchitis, but not in the gummatous affections, where iodide of potassium is preferable. At the same time tonics must be given, as indeed in the secondary and primary stages also. An expectant plan of treatment has been suggested for syphilis, but it is not to be recommended, nor would I favor hygienic and tonic treatment by itself, though in connection with specific treatment it is of great value.

It has been proposed by Mr. Venning, as a test to determine when syphilis has been removed from the system, to examine the condition of the inguinal glands. If there is any induration remaining, the patient is still syphilitic.

Iodide of potassium may be used very freely in syphilis. Formerly, five grain doses were ordinarily given, but from eight to ten grains is now considered a fair dose to begin with, and in some cases much larger quantities must be employed. I am convinced, however, that the drug is often given in excessive amounts in ordinary cases of syphilis.

Iodoform has been given internally, and homœopathic practitioners have employed gold, but neither appears to have any special value. Sarsaparilla used to be looked upon as an important remedy for syphilis, but I have never found that it was of any use whatever. A remedy strongly recommended by the late Dr. Sims was stillingia. Dr. Taylor speaks favorably of the erythroxylon coca. Hot baths are undoubtedly of use sometimes in

syphilis. For hereditary syphilis, mercury and iodide of potassium, in doses suited to the age of the patient, and combined with tonics, and especially iron, are of use. If a syphilitic woman is pregnant, she should undergo a mercurial course, in hope of preventing infection of the fœtus.

THE CHANCROID AND ITS TREATMENT.

By J. HENRY C. SIMES, M.D.

From the *Polyclinic*, July 15, 1884.—The question of the treatment of any venereal sore is one which has of late years given rise to two methods of therapeutics. On the one hand, we have those who advocate, as a rule, the application of some destroying agent to the lesion, and on the other, those who are opposed to any form of cauterization.

Without entering into a discussion upon the various theories of the duality or unity of the venereal sore, I will divide them into two varieties, those which are followed by syphilis and those which are not. That these two kinds of sores are met with, all experience is an evidence of the fact. The doubtful and disputed point is to know where to draw the line, to differentiate between an infecting and non-infecting lesion. That it is possible, in every case, to determine, with absolute certainty, the precise nature of every venereal sore, all writers are agreed in the opinion that such accuracy of diagnosis cannot be reached. There are, however, in most cases of venereal sores, some symptoms which justify us in placing the lesion under one of the two varieties. It is well, in every doubtful sore, never to give a positive opinion of its nature, but wait until the time for constitutional symptoms has arrived, and then all doubts will be removed.

The symptoms which accompany the non-infecting venereal sore—the chancroid—may be summarized as follows: The origin of this lesion is usually due to contact with pus from a similar lesion, or to accidental inoculation of the secretion of a chancre upon a person already affected with syphilis. The stage of incubation is of no value as a diagnostic symptom, except in a differential diagnosis from the infecting sore. The seat of the chancroid is, almost without exception, either upon the glans penis or prepuce. The possibility of a chancroid occurring at any other locality cannot be denied. The chancroid begins as a pustule or ulcer; it is irregular in shape, the edges are sharp cut, and often undermined, its surface is uneven, whitish, pultaceous; it secretes an abundant purulent discharge, which is readily auto-inoculable, and, therefore, the chancroid is usually multiple. Pain is a prominent symptom. There exists no characteristic induration, such as is met with in the infecting sore, but, exceptionally, the lesion is accompanied with an cedematous inflammatory swelling, which, in a measure, resembles the specific induration of a chancre. This is more especially the case when any irritant has been applied to the sore, such as a caustic. It, however, differs from the chancre induration, in that there is no marked limit to the swelling, but it gradually blends with the healthy tissues to which it is adherent; and, finally, it differs from the specific lesion, by disappearing with the healing of the sore. Again, the chancroid has no regular course; it may recover with rapidity, or it may be extremely slow in healing, enlarging and extending over a large extent of surface, in fact, becoming phagedenic. No protection of the system is afforded against a second attack by a previous infection. Inflammation and suppuration of the neighboring lymphatic glands is a very frequent complication of the chancroid.

Fortunately the treatment of the venereal lesions does not, in either case, materially affect the result. That is to say, it matters but little whether we have to do with a simple local venereal sore, or a sore which will be followed by syphilis. In both the same method of treatment is now advised by most writers upon the subject. In both the therapeutics is to be strictly local, but it is as to the nature of the local treatment that there arises a difference of opinion. One author advises us to cauterize every case; another rarely employs this method, and only to meet special indications.

The application of cauterizing agents to venereal sores has always been one of the methods of treatment in this affection.

After the division of venereal sores into infecting and non-infecting, the application of caustics has been continued, on the ground that each variety of sore contains within itself a specific virus. That this is true of the infecting variety none deny; but that there exists any specific element in connection with the non-infecting sore is a question which, at the present time, is disputed by a few authors.

From frequent employment of the cauterizing agents in this lesion, I had seen some of the disadvantages they occasioned, and more particularly the pain. This is always severe, and at times intense, notwithstanding the use of a local anæsthetic, such as carbolic acid, previous to the caustic application. Therefore, I determined to omit all cauterizing agents, in my treatment of the chancroid, provided no ill effect arose from the omission.

The number of cases treated was twelve, and in none did I find it necessary to resort to any cauterizing agent, in none did any complication arise during treatment, and in all a favorable termination was the result. One of the greatest difficulties the surgeon will meet with in following out this method of treatment is the patient himself.

Such a firm hold has the caustic treatment, not only upon the medical mind, but equally so upon the public, that the patient is not satisfied unless you "burn" his sore, and you must constantly call his attention to the progress the sore is making toward recovery, in order to reconcile him to the non-cauterizing treatment. Having succeeded without "burning," I doubt if you ever will be able to convince a patient of the necessity of a caustic, if he should be so unfortunate as to contract another chancroid.

It could scarcely have been a coincidence, but it is the fact, that in not a single case in which the cauterization was omitted was the lesion complicated by an adenitis. While, on the contrary, in four of the five cases which had been cauterized previously to coming under my observation, there was developed, or there existed at the time they presented themselves for treatment, a suppurating adenitis or periadenitis.

One of the most important, and for some the only reason that cauterizing agents are applied to the chancroid, is to prevent auto-inoculation, or a multiplication of the sores. There is no doubt but that a thorough application of a caustic will prevent auto-inoculation. That such cauterization is unnecessary, and that auto-inoculation may be prevented by other means, is demonstrated from the results obtained in my cases. In none was there any increase in the number of sores after treatment had been commenced.

Those who advocate the non-cauterizing method of treatment of the chancroid, regard the lesion as an ulcer, which may be caused by any irritant, and in this case the irritant is an acrid pus, coming in contact with a special part of the body, which from its peculiar histological structure is liable to develop the special form of ulcer characteristic of the chancroid. Therefore, they claim that the treatment applicable to ulcers in general is equally suitable for the chancroid. Thus anodynes, sedatives, astringents and stimulating applications have each their sphere of action in assisting nature to heal the lesion.

No definite rule can be given for the treatment of every case, but where there is no complication, the sore presenting the typical symptoms, the treatment which I have employed and found satisfactory, may be stated as follows: The discharge from the lesion is, as far as possible, to be prevented from collecting upon and around the sore; this may be done by frequent washings with water. The surface of the sore is kept dusted with iodoform, and is covered with a pledget of absorbent cotton. The simplicity of this treatment is a strong recommendation, and I can answer for its efficiency. An objection, and a very serious one, to the iodoform application, is its penetrating, lasting and extremely unpleasant odor. This, however, can in a great measure be obviated by exercising great caution, in its application, not to permit any of the powder to come in contact with the patient's clothing; confine your dusting exclusively to the ulcerated surface, and carefully cover the part with cotton. A few drops of oil of rose added to the iodoform is also of service in masking its odor.

Where the iodoform treatment cannot be used, on account of some complication, such as a contracted prepuce, or intense inflammatory action, or refusal of the patient, then the other forms of medication may be resorted to, selecting such as the symptoms of the sore seem to indicate. I am inclined to think the advantage of the iodoform treatment over others is to be found only in the greater rapidity with which the process of healing progresses.

THE TREATMENT OF SYPHILIS.

By A. WEISSER, M.D.

From the *Jour. Cutaneous and Venereal Diseases*, Aug. 1884.—Three questions come up for consideration in relation to our special theme. These are: When should the treatment of syphilis be commenced? What method of cure should we adopt? How long should the treatment be continued?

I. *When should the treatment of syphilis be commenced?* I reply—*not before we are quite certain of our diagnosis.* This may seem a mere truism, yet it is one which I am called upon to emphasize, in view of what we all know to be a very prevalent practice. There are many physicians who look upon every sore arising from sexual intercourse as syphilitic, and proceed at once to attack it accordingly. This is the result neither of faulty diagnosis nor of recklessness, but of too strict an adherence to a certain general theory—the theory, namely, which regards the virus of the soft chancre as identical with that of syphilis, and the difference between the symptoms of the two disorders as caused merely by a difference in the affected tissues, or by some other accidental circumstance. Now, as between this opinion and that of the *dualists*, I have no hesitation in expressing my most decided agreement with the latter—*i. e.*, with those who look upon the above mentioned diseases as entirely separate and distinct, as caused by different poisons, and their co-existence in the same subject as due to a simple coincidence. The observance of this precept will no doubt often result disagreeably for the physician, by obliging him to keep his patient for several weeks in a state of suspense and apprehension. *This, however, is a something which must needs be endured until such time as the demonstration of the characteristic bacteria in the chancreous secretion shall enable us to recognize the disease at once*, instead of waiting for the development of its symptoms.

But whenever our diagnosis is made, or however we arrive at it, the same rule holds good—that *our treatment of syphilis should begin just as soon as we are certain the disease is present.* Guided, in this case, as already said, by our conception of the bacterial nature of the virus, our path lies plainly before us: *we must, as speedily as possible, effect the destruction of the disease-producing germs.* The simplest and most direct means of accomplishing this object would be by the immediate removal of the earliest focus of infection. Unfortunately, for the reasons give above, such prompt action is inadmissible.

But when these manifestations have occurred, *is it not still possible to obviate all risk of constitutional contamination by destroying the chancre itself.* This is what was perseveringly attempted in a variety of ways, until the doctrine gained ground that the local affection was merely the expression of a general disease, and that, therefore, the removal of the former must necessarily be unavailing. It is only recently that the old-time theory and practice have been reverted to, as in full accordance with the bacterial notion of syphilis, and now we direct our efforts to the extirpation of the primary sore, in the hope of thus preventing, at a single stroke, the extension of the mischief. That is, we regard the initial induration as simply *the local focus of infection, as the centre in which the syphilitic virus is developed and from which it spreads, and consequently as the chief, if not the only, source of general contamination.*

Staunch advocate though I am of this method, I must confess that its results thus far have not corresponded with our anticipations. Such excisions have been made in numerous cases, which yet have developed constitutional symptoms. Despite these untoward results, I still regard the procedure in question as an advisable one, and I employ it myself in all cases where it is not forbidden by the localization of the sore on the glans, the corpus cavernosum, the lips of the urethra, etc.

On similar grounds, I am strongly in favor of *extirpating the lymphatic glands* when primarily affected, although this is a measure which cannot be so safely attempted by the general practitioner as the simpler one I have just referred to. In the case of a soft chancre, on account of its extremely infectious nature, the excision, if ventured upon at all, must be preceded by a thorough destruction of the specific virus, and accompanied by the strictest antiseptic precautions, if we would prevent the wound from becoming poisoned.

Finally, in deciding upon the feasibility of this operation, we must be governed by the circumstances of the individual case.

When excision is out of the question, or when we have reason to believe that general infection has already taken place, I would advise *that constitutional treatment be at once entered upon*. And here I must express my dissent from those teachings, emanating from the Vienna school, according to which such treatment may be wholly, or almost wholly, dispensed with. Sigmund, in particular, has reported that nearly forty per cent. out of his numerous syphilitic patients got along so well of themselves that they did not appear to require any constitutional treatment. This is opposed, however, to the experience of the French authorities, and particularly of Fournier, who found that the severest forms of secondary syphilis were manifested in those cases where the initial symptoms had been remarkably mild.

Assuming syphilis to be a bacterial disease, I infer that it is best treated by means adapted to remove the micro-organisms and prevent their reproduction without injury to the general system. It is my firm conviction that such an agent is only to be found in *mercury*, and therefore I do not hesitate to say that *every syphilitic patient ought to be brought under the influence of that drug, as soon as the nature of his case is ascertained*.

II. *What method of cure should we adopt?* I regard *inunctions* as the best means of obtaining the antisiphilitic effects of mercury. Mercurial baths I employ only when circumstances forbid the use of inunctions, or when the treatment has to be repeated two or three times successively in the same long-standing case. Muller and Stean's solution of sublimate with soda, or the mercurial peptones, are preferable for subcutaneous injections. For internal use, I prefer corrosive sublimate in small doses. It is best given as a watery solution, with common salt and plenty of milk, so as to lessen its disturbing action on the stomach and bowels. The yellow iodide of mercury is much better tolerated by many patients, but is in great part passed off in the stools.

III. *How long should constitutional treatment be continued?* This question is easily answered as regards the cases characterized by frequent relapses. Here the use of mercury should be suspended at intervals depending upon the constitutional effects of the drug, the state of the patient's nutrition, etc.; it being also borne in mind that mercury loses its peculiar action when administered uninterruptedly for too long a period. This latter consideration led Fournier to formulate his so-called "alternate and intermitting method," according to which the mercurial treatment is kept up for at least one and one-half to two years, with gradually increasing pauses of from four to eight weeks each, during which iodide of potassium is substituted.

When the complaint has passed into the *tertiary* stage, iodide of potassium is the sovereign remedy—and it must not be given in too small doses.

But what shall be said of those cases in which the early symptoms are few and mild, and are apparently succeeded by a complete return to health? Does the disease in them remain latent and liable to break out at any time, or is it actually and permanently cured? To this question no general reply is possible, in the present state of our knowledge. No test can be applied, no sign discovered, which may serve as an unerring guide. This being so, I hold that every patient in whom the disease has thus manifested itself should be regarded as *still a syphilitic and a fit subject for the mercurial treatment just referred to*. This treatment, in short—assisted, when necessary, by iodide of potassium—I would employ in *every* case of syphilis, with but three exceptions, viz., when tuberculosis or severe scrofulosis coexists; when there is a decidedly anæmic or cachectic condition, and finally when the form of specific disease presented is that known as "galloping syphilis." In this last, generally invigorating measures are alone called for, until the resisting

capabilities of the organism have been so far restored as to admit of a return to direct antisymphilitic medication. Here, as always, *our plan of management and the doses we prescribe must be adapted to the patient's constitutional peculiarities, as well as the nature of his disease.*

The long-continued mercurial and iodide treatment deserves to be considered, moreover, in relation to the *hereditary transmission* of syphilis. We know that when the disease runs its natural course, the liability to such transmission tends to diminish spontaneously at a certain rate; but this tendency may be decreased by the judicious administration of mercury.—*Deutsche Med. Wochenschr.*

AFFECTIONS OF THE EYE.

SYPHILITIC IRITIS.

By M. F. COOMES, M.D., Prof. of Phys., Ophthal. and Otol., in the Ky. School of Med., at Louisville, Ky.

From the *Med. Herald*, June, 1884.—When the iris is inflamed the pupillary space is very much diminished. This diminution occurs in all forms of inflammation to which the iris is subjected.

The diagnosis of an inflamed iris is usually a very easy matter, but of late years there has been some doubt about there being any characteristic which would enable us to distinguish syphilitic iritis from ordinary idiopathic iritis.

Aside from the history of the case, in the early stages we have nothing by which we are able to determine the cause of disease. As it progresses we may or we may not have additional manifestations which would enable us, with almost unerring certainty in many cases, to say that it was syphilitic. In cases of syphilitic iritis there is frequently a deposit of lymphoid material (it might be termed gummatous material) in the structure of the iris, which is as nearly positive evidence of the nature of the disease as anything can be which is not positive. These little nodules may be single or multiple, and generally appear near the pupillary margin of the iris, and frequently have a reddish yellow color. They are spoken of by some writers as a condylo-mata, by others as tubercles. It would be just as well to call them tumors, for it is necessary to call them by some name in order to have it understood what we are talking about.

Occasionally a tumor is met with in the iris, but its history and general appearance will in most every instance enable us to make the differential diagnosis.

It must be understood that all cases of syphilitic inflammation of the iris are not accompanied by a deposit of lymph in the structure of the iris. Indeed, very many cases occur in which there is no such manifestation, *i. e.*, where there is no gummatous deposit in the diseased organ. Hence it will be seen that there are many cases of syphilitic iritis which cannot be distinguished from other forms of iritis.

There is a difference of opinion in regard to the diagnostic value of the gummatous deposit in the iris in cases of syphilitic inflammation of that organ. It is claimed by some observers that this peculiar nodule is found in other forms of iritis, and that it is not confined to syphilitic inflammation of the iris. Personal observation would lead me to believe that if there is any one peculiarity which is characteristic and which is significant of the cause of any one disease, it is that of the peculiar nodule which appears in the structure of the iris in cases of syphilitic inflammation. I have observed this one feature in connection with syphilitic iritis, and believe that whenever the so-called gummatous deposit or nodule makes its appearance in the iris, that it is always a certain and positive evidence that the primary cause of the disease in question was syphilis.

Treatment.—There is one cardinal point to be observed in all cases of iritis where there is no peripheral corneal ulceration, with perforation, or the lia-

bility of perforation to occur, and that is to keep the pupil well dilated. In order to prevent this a solution of the sulphate of atropia, containing four grains to the ounce of water, should be instilled into the eye. A drop or two should be applied every hour until mydriasis is produced. If there is severe pain one drop may be applied every hour; and if evidences of belladonna poisoning should manifest themselves (viz.: excessive dryness of the throat with thirst, or flushed face) cease the use of the drug until the unpleasant symptoms subside. If the pain is severe and does not yield to the atropia, four grains of sulphate of morphia may be added to the ounce of water containing the four grains of atropia. This is to be used in the same manner as the atropia solution. Counter irritation with iodine may be beneficial. Blisters are also useful, and should be applied over the brow and temple corresponding to the afflicted eye. Sometimes cold or hot applications may assist in allaying the pain. Such applications should be made by dipping cloths into hot or cold water and then laying them over the diseased member, removing and renewing the application as the exigency of the case may demand. The eye should be well protected from light by a pair of dark glasses, or by a dark shade. If the patient can remain in a dark room or in a subdued light, it will probably be the better for him to do so. General hygienic measures should be attended to—such as baths, nutritious diet in moderation, and well-regulated bowels. As to the constitutional treatment, I am free to say that I have obtained better results from the liberal use of the iodide of potassium in the treatment of all forms of iritis than from any other one agent, or all other agents combined.

It is certain that, in cases of syphilitic iritis, it is as nearly a specific as can be found in medicine, while its effects in other forms of the disease are equal, and I believe superior to those of any other drug. The quantity given, I think, has much to do in affording prompt relief. I make it a rule, if my patient is a moderately stout adult, to commence by giving ten grains in a large tumbler full of water about a half hour after each meal and at bedtime.

In the administration of the iodide of potassium if no improvement in the symptoms is observed, and no evidences of the physiological effects of the drug by the end of the third day, I have my patient double the dose, and continue to increase it rapidly until the physiological effects of the drug manifest themselves, or until improvement occurs. If the patient should become thoroughly iodinated, I have him stop using the medicine until the unpleasant symptoms have abated, and then again return to the original dose, and have it continued as before. In most cases it takes but a short time to determine whether the disease will yield to the remedy or whether the patient will become intolerant of the drug.

THE USE OF JEQUIRITY.

By O. F. WADSWORTH, M. D., of Boston.

From the *Boston Med. and Surg. Jour.*, June 12, 1884:—The enthusiastic announcement by De Wecker, nearly two years ago, of the merits of infusion of jequirity in the treatment of trachoma had been followed by the publication of numerous articles on the subject. The general verdict has been that the new remedy is of much value *when employed with caution and in properly selected cases*. Precisely what is the range of disease in which jequirity may be safely used cannot yet be regarded as settled. It would seem at present that its application should be much more narrowly restricted than De Wecker proposed in his early communications, and that unless there be a pannus of the cornea it is more likely to be injurious than beneficial.

With pannus of the cornea this writer asserts that an intense inflammation excited by a single application brings no danger to the cornea, but an undue increase of a beginning ophthalmia by farther use of the drug or its continuance when there is already a purulent discharge does endanger the cornea, for there is then produced not the specific jequirity ophthalmia, but an increase of the preëxisting purulent conjunctivitis. The remedy should not,

therefore, be used when there are suspicions of chronic purulent ophthalmia, but only in cases in which the granulations are dry.

The efficiency of jequirity in simple and ulcerous pannus De Wecker considers established without doubt. He also claims that, according to his observations, its use is attended with no danger in parenchymatous keratitis and chronic infiltration of the cornea, which clear up with more or less certainty and to a greater extent than has ever been attained with syndectomy.

The experience of others with jequirity has not always been so rose-colored. From consideration of other publications it appears that the susceptibility of individuals to the action of the remedy is by no means uniform. The pain induced by the application is often very great; sometimes severe rigor, fever, and prostration have been caused. Not only ulceration but perforation of the cornea has occurred in several instances, even when there was pannus of the upper half, at least, of the cornea, and a weaker solution than that last advised by De Wecker was used, though the treatment was not always confined to a single application. Danger to the cornea, other things being equal, is inversely as the amount of pannus.

The widespread acceptance that the germ theory of disease has acquired at the present day made it natural that its aid should be invoked to explain the inflammation excited by jequirity. De Wecker early suggested that a vegetable ferment was the active agent concerned. Dr. Wadsworth then reviews the experiments made by Sattler and Hippel, later by Neisser, Klein and Salomonsen, and then says:—

All confirm the observation of Sattler that a sterile infusion possesses full virulency, and concur in the statement that the bacillus is not the active agent.

Neisser and Salomonsen even assert that, instead of the bacillus causing the inflammation, it is this which after a time destroys the potency of the jequirity, while, on the other hand, the activity of the infusion is preserved so long as it is kept free from germs. All were unable to find the bacillus in the secretions, or in cultures made by inoculating suitable soils with the pus and membranes.

ON FOERSTER'S METHOD OF ARTIFICIALLY RIPENING CATARACTS.

By WM. F. MITTENDORF, M. D., Surg., N. Y. Eye and Ear Infirmary.

From the *Medical Record*, June 28, 1884:—It is generally admitted that a cataract, in order to be successfully operated upon, must be mature or ripe.

This is usually easily diagnosed by the absence of any clear portions of the lens, which would give the cataract a mottled opaque appearance or show itself by a glistening mother-of-pearl-like look of it, or by a broad dark shadow between the pupillary edge of the iris and the lens. If left to nature this process may be completed in four or eight months after the first sign of a lenticular opacity; but in some cases it may take many years before the cataract is ready for an operation.

A plan to accomplish the same purpose has lately been advocated by Professor Foerster, of Breslau. He had observed, like several other operators before him, that after a preliminary iridectomy the opacity of the lens would sometimes rapidly increase. He advises, therefore, to make a preliminary iridectomy in the direction in which we intend to extract the cataract. The lens will, after the escape of the aqueous humor, fall forward and come in contact with the posterior surface of the cornea, a condition which must be necessarily associated with a certain amount of traction on the suspensory ligament of the lens and the ciliary body, and it has been inferred that this might be the cause of a more rapid increase of the cataract. If the cornea is rubbed with a hard but smooth substance, so as not to injure it, either in a circular manner or by stroking it from the centre toward the periphery, as Dr. Foerster recommends, great changes may be brought about in the opacity of the lens, for as long as the lens is in contact with the cornea any pressure exerted upon the latter must also be felt by the former, and may therefore

lead to a certain amount of disturbance of its anatomical arrangement, especially if some opacity of the anterior cortical matter is already present.

The effect of this manipulation may be so decided that a partly opaque lens can be transformed into a ripe cataract within a few days. But such rapid changes are only exceptional; it takes usually more than four or six weeks to accomplish it.

This operation has also been called a trituration, or as Dr. Noyes prefers to call it, a massage of the lens. Foerster, who has done this operation more than two hundred times, considers it devoid of great danger; he does not even report any complications or inflammatory sequelæ.

But the question is, Is this operation devoid of great danger, or must it be used only in certain exceptional cases and with great care? As this operation is comparatively new, the results which other surgeons have had with it are of the greatest importance. In a very able paper on this subject by Professor H. D. Noyes, which was published in the *Medical Record*, August 4, 1883, he closes with the remark that the moderate experience thus far collected indicates that this operation merits further trial.

The object of my paper to-day is to give you the result of my experience, which is unfortunately not quite so favorable as that of Dr. Foerster, nor is it as good as that of Dr. Noyes, who out of eight cases had twice severe iritis as a sequel to the operation. I have thus far made twenty operations of this kind during the last fifteen months, and have observed three times very serious complications, and in one of these I fear it led even to the loss of the eye, as purulent iritis and panophthalmitis developed.

The indications for the performance of this operation have been simultaneous formation of cataracts in both eyes, both advancing very slowly; the loss of one eye; incurable disease of the one eye; and patients who came from a great distance and could not well afford to return, and if they had returned it would have been perhaps only to find that the cataracts were not yet ready for an operation.

Method of operating.—I would recommend that the following rules be observed as strictly as possible: The eye should be brought fully under the influence of a mydriatic before the operation. Ether must be given to produce profound narcosis. A narrow cataract-knife, which is not too thin or elastic, should be used to make the corneal section. The iridectomy must be moderately large and peripheral, but it must not encroach upon the ciliary region. The trituration of the lens should be confined as much as possible to the pupillary space, and is to be done with a smooth, unyielding instrument; the convex side of a strabismus hook is as good as anything. It must be done in a rotatory manner; it is not to be interrupted if possible, and should be completed in a minute or two.

After-treatment.—After a thorough cleansing and disinfecting of the wound and conjunctival sac by means of a concentrated solution of boric acid, atropine is to be instilled. Both eyes are to be bandaged, and the patient must be kept in bed for a few days until the wound is healed. If no pain or other signs of inflammation are present the bandage may be removed and the patient allowed to sit up. The last traces of injection around the wound will disappear in about ten to fourteen days.

Results.—The time intervening between this operation and the complete ripening varies considerably; it depends on the extent of the opacity, the nature of the cataract, and the amount of pressure employed. In order to be successful there must be some opacity of the anterior cortical matter at the time of the operation. Posterior polar and other forms of cataracts, in which this is not the case, are therefore not benefited by the operation. Some of my patients could be and were operated upon as early as twenty-five or thirty days after the trituration of the lens. At times very decided changes in the extent of the opacity could be seen a few days after the operation, but as a rule it takes from four to ten weeks for the ripening of the cataract. Age or sex does not seem to have any marked influence in this.

In two of my cases the operation was not successful. These were cases of a posterior polar and an anterior polar or capsular cataract; in both of them no perceptible change was produced.

Final extraction of the cataract.—This, as I should judge by my limited experience, is not only simplified, but it is also less dangerous than the usual operation.

URÆMIC AMAUROSIS.

By A. FRIEDENWALD, M. D., Prof. of Diseases of the Eye and Ear in the Coll. of Phys. and Surg., Baltimore.

From the *Med. News*, Aug. 9, 1884:—If we refer to text-books on ophthalmology, we find that uræmic amaurosis has received but a passing notice. We must ascribe this to the fact that the oculist but seldom has to deal with this disease; for, while it is, on the whole, of rather infrequent occurrence, it remains almost exclusively under the observation of the general practitioner.

While it has long been recognized that transient loss of vision is occasionally observed among the other symptoms of uræmic intoxication, pathology still owes us a satisfactory explanation as to exactly how the eye becomes involved.

The uniform absence of ophthalmoscopic changes would permit us to ascribe the loss of vision in pure uræmic amaurosis to either the presence of poisonous material in the cerebral circulation, and to an effusion into the brain substance or in its ventricles equally well.

This anomaly of vision, like all other signs of uræmia, is characterized by the suddenness of its invasion, the loss of vision from the first, or in a very short time, being complete. The ophthalmoscopic examination will yield entirely negative results, except in those cases in which retinal degeneration preëxisted. There is no especial form of kidney disease to which the amaurosis is restricted; it occurs in all forms, although, perhaps, more frequently in those met with in pregnancy and scarlet fever. In some cases in which the uræmic symptoms appear at once in these fulminating forms, the patient having been seized with convulsions without any previous warning, and lapsing in a state of coma may awake from this condition and find his sight gone. At other times headache and vomiting alone may precede the amaurosis, which may be subsequently followed by convulsions and coma; on the other hand, in the cases just described, the amaurosis may be the highest point in the intensity of the case, from which the symptoms may recede. As the uræmic explosions may repeat themselves a number of times in the same case, so also may several attacks of amaurosis be observed in one patient.

During these attacks the urine is generally scanty or entirely suppressed, the chemical analysis showing almost always large quantities of albumen.

The state of the pupils in uræmic amaurosis differs very much according to the accounts of various observers. Sometimes they are found perfectly normal, or, being somewhat dilated, promptly react to the stimulus of light. At other times they are widely dilated and refuse absolutely to respond to light. It is generally considered that the cases in which the activity of the pupils is maintained, offer the more favorable prognosis as regards the restoration of sight after the patient has recovered from the attack, although even in those cases in which the dilated pupils remained totally unaffected by light, complete return of vision has been observed.

The prognosis upon the whole when the patient does not succumb to the general effect of the poison is to be regarded as favorable. Sight may be re-established as suddenly as it had disappeared; it may also come back gradually, and, indeed, several days may elapse before full vision is regained. In some cases in which there were several attacks at short intervals, while the patient was relieved of the complete blindness, with which he had been afflicted, still vision remained permanently somewhat impaired.

With regard to the frequency with which amaurosis occurs in uræmic attacks, no statistics have, as yet, been furnished. The cases are upon the whole rather rare, and this induced me to communicate the two following cases, which have come under my observation.

Dr. Friedenwald then gives the histories of his cases together with the following summary:

1. That when amaurosis suddenly overwhelms a patient in both eyes with no ophthalmoscopic change, uræmia should be suspected even in the absence of any other prominent uræmic symptom.

2. That uræmic amaurosis will continue only as long as the uræmia exists, and will disappear when the function of the kidney is reestablished. When permanent injury to sight is observed, it may be due to preëxisting retinal changes, not at all uncommon in Bright's disease.

3. That the chances for a full return of sight are somewhat impaired when the patient has been the subject of recurring attacks.

4. That by exhibiting jaborandi and other means for inducing free diaphoresis and by free purgation a catastrophe may be averted in the general forms of uræmia, but when it occurs in pregnancy premature labor is the only remedy which promises safety to the patient.

AFFECTIONS OF THE EAR.

THE TREATMENT OF PURULENT INFLAMMATION OF THE MIDDLE EAR.

By A. R. BAKER, M.D., Cleveland, Ohio.

From the *Cincinnati Lancet and Clinic*, Aug. 9, 1884:—I remember hearing Dr. C. R. Agnew says in one of his lectures some years since that there was not one general practitioner in the United States in twenty who knew the normal ear drum when he saw it. I thought at the time it was a broad assertion, but my subsequent experience has led me to think he was not far from the truth. There is no reason why every general practitioner should not be able to use reflected light and the aural specula and discontinue the empirical treatment of the ear aches by putting all sorts of mixtures into the external auditory canal and waiting for "something to break."

Most cases of ear ache can be relieved by syringing with hot water and the use of dry heat externally, and the occasional application of a leech to the mastoid process. If this does not relieve the inflammation at once, and it goes on to suppuration, the general practitioner ought to be able to perforate the drum and let the pus escape. With reflected light it is more difficult than to open an abscess.

The danger of the extension of the inflammation to the brain and its meninges is an additional stimulus to urge us to act promptly. Dr. Buck says that "*a localized meningitis may be assumed to exist in every severe case of acute purulent inflammation of the middle ear.*" It would be interesting to know in what percentage of deaths from meningitis this is the origin.

I have nothing new to add to what Dr. Turnbull has so often and so well said about the use of boracic acid in impalpable power in the treatment of purulent inflammation of the middle ear. But so far as my observation has extended, its use has not yet become general, and I think I am justified in calling the attention of the profession to it once more. Many physicians who have used the remedy, have used a very coarse powder; or used it in very small quantities; or neglected to remove the secretions thoroughly, and did not have the ear perfectly dry; or used the syringe too frequently, and did not let the powder remain in the ear long enough, or neglected some of the essentials of success, and consequently its use has been followed by disappointment.

I use the powder as recommended by Dr. Turnbull in an article read before the Pennsylvania State Medical Society, of 1882, on this subject. The boracic acid should be pulverized so finely that when rubbed in the hand *no crystals can be seen.*

The ear is to be dried carefully with absorbent cotton, through the speculum, and with reflected light. The syringe is to be used only in exceptional

cases, when it is impossible to remove the hardened secretions in any other manner. After removing all the secretions from the external ear, and if the perforation is large enough, from the middle ear, with absorbent cotton, it is necessary to inject air forcibly through the Eustachian tube, and force the contents of the middle ear into the external canal, where they can be removed. Much, and, in fact, the most essential part of success, depends on cleaning every portion of the auditory apparatus thoroughly, and in having it perfectly dry before using the powder. After this is accomplished, pack the auditory canal full of the powder, using gentle pressure, so as to force the powder through the perforation into the middle ear, and place a little plug of cotton to retain the powder *in situ*.

Do not attempt to blow the powder into the ear with one of the many insufflators in the market, and as recommended by the books.

As long as the powder remains perfectly dry, let it alone. When it becomes saturated, remove it carefully as before, and pack with powder again. Continue this treatment as long as the powder becomes moist from the secretions. When the powder remains dry for several consecutive days, we may infer that the suppuration has ceased. Yet we must not be in haste to remove the powder, and if we use the syringe, in all probability we will start the suppuration anew.

Some cases will be cured with one packing; many cases will not require more than three or four, at intervals of one to five days, while other cases will require careful packing and attention for many days.

In simple, uncomplicated cases, the above treatment is all that will be required. Unfortunately, they constitute a small percentage of the cases we meet in practice. The general condition will usually need careful attention, many cases requiring general tonics and other specific treatment. Patients must avoid taking cold.

Some persons do not hear as well after the suppuration has ceased as they did when at its height. I have found this true of a smaller percentage of cases than the books had led me to expect. I have almost always been able to restore the hearing to its former acuteness, if not better than before the suppuration was abated, by the persistent use of Politzer's air douche. I generally find two or three times a week as often as it is advisable to use the air douche in most cases.

SEROUS EFFUSIONS IN THE TYMPANUM.

By J. ORNE GREEN, M.D., of Boston.

From the *Boston Med. and Surg. Jour.*, June 12, 1884:—In serous effusions of the tympanum two distinct factors are thought to be the cause of the exudation, inflammation of the tympanic mucous membrane, and closure of the Eustachian tube, the former by producing a thin, serous secretion such as is common from any inflamed mucous surface, the latter by a more complicated process of suction which causes an exosmosis of the serum from the capillary blood-vessels.

These two forms of secretion arising from these two distinct causes have been given different names, that due to inflammation of the mucous membrane being called a serous inflammation, and that due to an exosmosis being called a hydrops ex vacuo. The dividing line between the two is, however, by no means distinct, and in the majority of cases which are seen in practice it seems impossible to determine how far each factor has been concerned in the causation of the effusion. In most cases it seems to me that both are active, sometimes one and sometimes the other predominating.

The etiology, symptoms, and course of the disease are shown very well by cases which are omitted. When the drum-membrane is translucent the yellowish color of the serum is clearly seen, and if the liquid does not completely fill the cavity the surface of the fluid is clearly seen, like two fine hairs, running from the manubrium, anteriorly and posteriorly, to the periphery, usually in slight curves. If the surface of the liquid changes on bending the head, as it often does when very limpid, or if it varies its position after inflation, the diagno-

sis is confirmed. Where the drum-membrane is opaque, either from previous disease or from swelling, the history of the case and auscultation during inflation enable one to make a probable diagnosis.

The cure of the disease is affected by reopening of the Eustachian tube and by resorption of the effusion as the inflammation of the mucous membrane subsides.

The risks are (1) a permanent lengthening of the fibres of the membrana tympani, leaving it in a flaccid condition; (2) permanent retraction of the tensor tympani muscle or adhesions between the drum-membrane and tympanic wall; (3) non-absorption of the secretion and continuance for an indefinite time of the original symptoms. Many of the lighter cases undoubtedly recover of themselves and perfectly, the tube opening as the acute nasopharyngeal inflammation passes off, and the absorption going on rapidly from that moment. But in many the amount of the secretion is so great that even after the opening of the tube and the subsidence of the inflammation nature is unable to effect resorption, at least within the time necessary to save the ear from permanent deformity.

Politzer's inflation is sufficient in many cases to fulfill both of the indications for treatment. Appropriate treatment to the naso-pharynx is sometimes desirable, but often unnecessary. In no class of cases is the effect of inflation so distinctly visible as in those under consideration. Where Politzer's inflation is ineffectual, recourse can be had to the catheter. When, however, it is evident after several inflations that no progress is being made, paracentesis will give a rapid evacuation with most excellent results, and in exceptional cases its repetition may be necessary. I evacuate the cavity at one sitting by inflation and by the gentle use of Siegle's speculum, not, however, using the latter long enough to seriously increase the congestion. In the majority of cases the pain from the incision is so slight that it can be easily borne even by little children, partly due, I think, to a partial insensibility of the membrane, produced by the pressure of the fluid. Where, however, the drum-membrane is decidedly inflamed or where the serum has collected in the upper posterior quadrant, requiring an incision in that portion of the membrane, the pain is sometimes acute for a few minutes, but rapidly subsides. Immediately after evacuation the edges of the wound fall in contact, and usually unite in from twenty-four to forty-eight hours, but not so firmly that they cannot be separated by a probe on the next day if further accumulation renders another evacuation necessary.

A few inflations after evacuation are generally sufficient to fully restore the permeability of the Eustachian tube, but till this is accomplished the permanency of the cure cannot be depended upon.

AFFECTIONS OF THE SKIN.

SEBORRHŒA.

By GEORGE H. FOX, M.D., Clin. Prof. Dermatology, Coll. Phys. and Surgs., New York City.

From the *Nashville Jour. Med. and Surg.*, June, 1894:—Seborrhœa is an affection in which the natural secretion of sebaceous matter is abnormally increased. The affection is usually confined to a limited portion of the skin, and is notably frequent upon the scalp, face, breast, and back.

Seborrhœa Capitis.—An abnormal increase of the sebaceous secretion is very common upon the scalp. In infants this is usually a portion of the greasy coating which covers the skin of the fetus (*vernix caseosa*).

Seborrhœa Faciei.—In young persons, particularly, those subject to acne, an oily condition of the forehead and nose is not uncommon. In rare instances the affection exists in such a marked degree that the oil will collect in drops upon the surface of the skin.

Diagnosis.—The oily form of seborrhœa is not readily mistaken, but the dry form of the affection, whether occurring upon the scalp, face or body, be

apt to be confounded with several other diseases. In seborrhœa of the scalp the diagnosis is not always an easy matter. The fine, branny scales which constitute "dandruff" are usually of mingled epidermic scales and sebaceous matter, and the relative proportion of these constituents is subject to considerable variation. The scales may be very largely composed of dried sebum, in which case the diagnosis of seborrhœa must be made. But on the other hand the scales are often dry, white and powdery, and contain little or no sebaceous matter. In such a case they are the result of a pre-existing hyperæmia of the scalp, and constitute the mildest form of erythematous eczema which has been described by many writers as a distinct disease under the name of pityriasis. It is often difficult without resorting to a microscopical examination of the scales to decide whether the sebaceous or the epidermic element preponderates, and many cases indeed are on the border land between seborrhœa and pityriasis.

In seborrhœa, however, the crust can be easily removed by gentle scraping and the scalp beneath is of a dull greyish or pinkish hue, while in eczema the crust is adherent and the scalp beneath it is more or less inflamed and apt to bleed if the crust be forcibly removed. In seborrhœa the affection is dry from the onset, while in eczema there is usually a history of previous moisture, and a considerable amount of pruritus.

Psoriasis of the scalp is even more similar in appearance to seborrhœa, and is very apt to be mistaken for it, when as occasionally happens, the scaly patches are not present upon other portions of the body. But the scales of psoriasis are drier, whiter and less pliable than those of seborrhœa, and while the patches of the latter are irregular in outline, those of the former are commonly circular, and especially apt to occur along the frontal margin of the scalp and in the little tuft of hair which extends down in front of the ear.

Seborrhœa faciei may be confounded with eczema, lupus erythematosus and rosacea.

Treatment.—In the present state of our knowledge we are forced to rely mainly upon external treatment. There are two objects to be kept in mind in the treatment of every case, viz., to soften, if necessary, and to remove the sebaceous secretion, and to stimulate the glands to health action. The first aim can be readily accomplished; the second sometimes proves to be a difficult task. In seborrhœa oleosa the frequent use of soap tends to keep the skin dry, but rarely effects a permanent change in its condition. After bathing the skin with soap and hot water, and carefully drying it, the application of precipitated sulphur, tannic acid, or some other astringent powder is usually beneficial. If there be a tendency for thin crusts to form over the affected surface the following ointment, lightly applied by means of the finger, is preferable. *R.* Washed sulphur, 8 parts; balsam of Peru, 2 parts; petrolatum, 40 parts. *M.*

In obstinate cases of seborrhœa of the nose, and these cases are generally obstinate, I have obtained the best results by having the patient rub the nose vigorously before going to bed with a soft linen rag wet with ether, and then apply the following lotion: *R.* Sulphate of zinc, 3 parts; sulphate of potassium, 3 parts; alcohol, 10 parts; rose water, 100 parts. *M.*

In dry seborrhœa of the scalp the crust may be readily removed by soaking it thoroughly at night with olive or almond oil, and shampooing the head in the morning with the official tincture of green soap. This will leave the scalp clean and natural in appearance, but a cessation of the treatment at this point will be speedily followed by a return of the crust. The patient must therefore be directed to shampoo the head twice every week or oftener, if it seems necessary, and to apply meanwhile some slightly stimulating ointment every night. Hyde recommends the following:—*R.* Oil of sweet almonds, 10 parts; carbolic acid, 1 part; alcohol, 100 parts; oil of bergamot, q.s. *M.*

If this plan of treatment is carried out for a few weeks the tendency to the return of the crust will usually cease. In the many cases where seborrhœa does not form a thick crust upon the scalp but occurs in the form of dandruff with the falling of the hair, it is often necessary to prolong the treatment for several months.

MIDWIFERY,

AND THE DISEASES OF WOMEN AND CHILDREN.

CONDUCT OF PROTRACTED LABOR.

By WM. D. COOPER, M.D., Morrisville, Va.

From the *Virginia Med. Monthly*, June, 1894.—The question arises, what is protracted or unnatural labor? The distinction is altogether arbitrary, for every practitioner of much experience fixes his own limit to simple or natural labor.

As intimated, a simple, natural case, by our officiousness may be converted into a *protracted* one. For instance, we find a woman in labor: pains frequent and varying, mucous secretion in sufficient quantity, the mouth of the uterus partially open and dilatable. In our anxiety to have the head descend and, if possible, assist or hasten the delivery, we make frequent examinations, only to find, to our sorrow, that the mouth of the womb has become thickened, hard and tender, the vagina hot and dry, and every prospect for a speedy termination gone. This I will begin with as a case of protracted labor.

Formerly I bled, in such cases, and waited the result. Now I use chloral hydrate in full doses, so as to procure sleep, or, where there is no prejudice against it, I use chloroform.

One cause of protracted or unnatural labor, not of our own making, and, I may say, the most common, is *hæmorrhage*, or flooding. This case needs no special diagnosis. It may be there has been some bleeding for some days, which has become so excessive as to produce alarm. If we find the mouth of the womb dilated, or sufficiently dilated, and the head of the child still high up in the uterus, not even engaged in the superior strait of the pelvis, I think there should be no hesitation in introducing the hand, turning the child and delivering by the feet. But if the head is presenting and engaged in the superior strait, or pressing down in the vagina, I would greatly prefer using the forceps, for I am fully satisfied that the dexterous and skillful use of the forceps, in such a case, is equally safe for the woman and much safer for the child.

Again, a case of labor may commence naturally and seem to be progressing favorably, but from some unknown or unfavorable cause, *convulsions* may set in, or be threatened so seriously as to demand manual or instrumental assistance.

We find the mouth of the uterus but partially dilated, no possible chance of introducing the hand to turn, but still the symptoms urgently demanding that we do something to avert the impending danger. What must we do? Without any hesitation I would bleed, even to syncope, and if then the womb should not become softened and dilated, which it usually will, I would use chloroform, introduce the hand, turn and deliver by the feet, giving the forceps the preference under the same circumstances and for the same reasons as in the preceding condition.

But there is another class of cases which I would consider protracted or *tedious*, without being unnatural, which I think may be benefited, or the pain and suffering greatly alleviated. I think any case of labor lasting over

eight or ten hours may be considered protracted or tedious, and produce, in many instances, what we might properly term exhaustion or inertia.

I do not mean the mere loss of strength in the muscular organization, but a state of inertia of the uterus itself. For how often have we seen cases of labor commence with all the symptoms favorable for a speedy termination of the case, and the pains gradually become less frequent, the patient listless and impatient. Upon examination we find the os uteri pretty well dilated, the head of the child high up and receding after each pain, the membranes not ruptured, the uterus evidently filled up with a quantity of liquor amnii; the membrane being ruptured, the waters are discharged, to the great relief of the patient, the pains are renewed and the labor progresses to a favorable and happy termination. There are still other cases of exhaustion where the waters have already been discharged, the head presenting at the superior strait, the os partially dilated, entirely dilatable during the interval, but with each pain and effort on the part of the woman, the os seems to close and prevent the head from engaging in the pelvis, the woman complains of a feeling of exhaustion, is restless, irritable and importunate.

During the first stage of such a labor we have already used anodynes: chloral hydrate and perhaps chloroform. Ergot is hardly admissible (if admissible, inefficient), as the circular fibres of the womb are wont to contract with considerable force, without a corresponding action of the longitudinal muscles. Quinine, as you are well aware, has of late, as an oxytocic, received considerable attention, but it cannot be relied on with any great certainty as a uterine stimulant.

In this the question arises, what do we gain by delay, and which is the greater risk? This I consider a typical case for the use of the forceps, which I greatly prefer to turning, because, by a skilful and dexterous use of the instrument, the woman is subjected to much less pain and danger, whilst the safety of the child is almost a positive certainty; whereas, in turning, as every practitioner knows, there is very great danger to the child, from the pressure on the umbilical cord during the transit of the head through the pelvis and soft parts.

Again, the head may have engaged well in the superior strait, and passed down into the pelvis, perhaps impacted. The head may be of unusual size, or at least disproportioned to the capacity of the pelvis. The patient may have been in labor several days, making very little or no advance. The constant pressure from the *vis a tergo* is likely to produce vaginitis, sloughing and pelvic cellulitic abscess, and perhaps (which would be deeply deplored), "vesico or recto-vaginal fistula." Nothing, it seems to me, is plainer, in all the duties of the kind and sympathizing physician than at once to, resort to instrumental delivery.

There is still another trivial cause of protraction or delay which I should mention. We frequently find that when the mouth of the womb has pretty fully opened and the pains are regular and unusually severe, the anterior lip of the uterus with each and every pain is firmly pressed between the head of the child and the pubis, and the longer it thus remains the more tender it becomes, but by gentle pressure during the intervals, it seems to recede, only to return again with each pain. Now I think as soon as this condition is discovered, we should by firm but gentle pressure with the finger (being careful not to scratch or wound the parts with the finger nail), force it up over the head, at the risk, apparently, of impeding the descent of the head for a short time, for I am well satisfied in my own mind that this continued pressure is a fruitful source of many of the ailments of the womb which we are afterward called on to treat, such as ulcers, fissures, etc.

Then again, we find the mouth of the womb fully dilated and entirely soft. The neck does not seem to have been obliterated, but descends into the vagina with the head and is a serious cause of delay. It is in such cases that I find not the slightest difficulty (if not relieved by manual pressure), in introducing the forceps, when the mouth of the uterus will easily glide over the head and we can at once accomplish delivery, with entire ease and safety.

From what I have said it may be inferred that I am an advocate of instrumental assistance, in protracted labor, and to corroborate the views I have

advanced, it may be expected that I shall quote some authorities on the subject; but as you all well know, the time and opportunities of a country physician entirely preclude the collection of such testimony, and as I stated in the beginning of this article, I set out to give you only my own experience.

SOME COMPLICATIONS OF ORDINARY LABOR.

By W. H. HAYNES, M.D., New York.

From the *N. Y. Med. Jour.*, July 5, 1884.—These cases are presented as illustrating points in the practice of midwifery overlooked or merely mentioned in works on obstetrics, with directions for treatment tending to their successful terminations.

CASE I.—*Premature Rupture of the Membranes, and Ankylosis of the Sacro-coccygeal Articulation.*—Mrs. H. K., aged twenty-six, a native of Ireland, is a stout woman, of good health and appearance. She has never suffered from any menstrual difficulty.

The two points to which I will draw attention in the above-recorded case are premature rupture of the membranes and sacro-coccygeal ankylosis.

Premature rupture of the membranes is usually the result of a combination of two or more of the following conditions: Abnormal thinness of the membranes; or excess in quantity of the liquor amnii, with a sudden and forcible entrance of the head into the excavation of the pelvis; or the occurrence of painless contractions due to exertion or injury of various kinds; and meddling or criminal midwifery. It may occur as long as four or five days previous to the commencement of labor, or only after the first few pains, before dilatation of the cervix is complete, and is to be diagnosed from a somewhat similar condition known as hydrorrhœa. This is accomplished with certainty only by a physical examination, when in a case of ruptured membranes the finger will reveal absence of fluctuation and ballottement within the uterus and come directly in contact with the head through a slightly dilated cervix; whereas in hydrorrhœa the os will be undilated, the cervix of normal length, and fluctuation and ballottement obtained. Another element in the diagnosis will be the period of gestation at which the woman has arrived. If the discharge takes place close upon her expected accouchement, it will more probably be due to rupture of the membranes, whereas hydrorrhœa occurs most frequently during the period of gestation between the fourth and seventh months. In both conditions the proper course of treatment to pursue is rest of every description. The complications which may arise on prolapse of the funis and hæmorrhage from within the uterus.

Ankylosis of the sacro-coccygeal articulation in women is a condition found to exist in a certain proportion of those who have passed the period of adolescence, usually after twenty-five years of age without child-bearing, and in consequence of natural or diseased processes. It may be partial or complete as regards the number of pieces of bones involved and fibrous or bony in its nature, and is most readily felt with the finger in the rectum. Not in all cases does the angle formed by the coccyx offer any interference with the natural mechanism of labor, but in some few cases the bone is turned so acutely forward and so firmly fastened as to lessen the antero-posterior diameter of the inferior strait and cause consequent impaction of the head in the outlet of the pelvis. This necessitates either a fracture of the (now one) bone, allowing the head to pass, or the assistance rendered by the forceps in compressing and molding the head so that it will pass the obstruction. Of these two modes of treatment, the former is the one advocated by all writers, but one which I have been unable to accomplish, and have therefore resorted to the latter, which I have found, in the three cases of this nature I have met with thus far, to be an easy, safe and rapid one.

CASE II.—*Shortness and Rupture of the Funis.*—Mrs. A. T., Italian, aged twenty-three, is a robust, healthy woman, pregnant for the first time. Has enjoyed good health during gestation.

While this is the only case of decidedly short funis I have met with, I have had the proportion of one coiled funis to every four cases of midwifery that have fallen to my lot, in half of which number ante-natal symptoms pointed

to that fact. These symptoms, which were well portrayed in my case—the constant pain in the uterus which is complained of by the patient, and can be differentiated from the other pains attending the parturient process; constant desire to maintain a sitting posture; absence of all desire to assist nature with bearing-down efforts; advance and recession of the head till it becomes stationary; peculiarity of the contractions, becoming short and inefficient; with no other obstacle to a quick and easy delivery—rendered the diagnosis easy by both direct evidence and exclusion.

The condition shown by this train of symptoms may result simply in a protracted labor that otherwise would have been rapid; strangulation of the part of the child that the cord encircles; rupture of the cord; or premature separation of the placenta, allowing of a hæmorrhage and inversion of the uterus.

The different plans of treatment advised for this complication are: the efforts of nature, assisted by position, the woman squatting, sitting, or in the genu-pectoral posture; external abdominal compression; looping down the cord over the head; allowing delivery through the coils; assistance rendered through the rectum; ergot, the forceps, and severance of the cord.

In the majority of cases the efforts of nature, assisted by position, manipulation, and sometimes ergot, will accomplish a successful result, as in the above-recorded case; but in two cases of coiled funis I have failed by these methods, and have had to resort to the forceps for accomplishing the delivery, each time with success. The necessity for a cutting operation will be very rarely called for.

I have had another case of rupture of the cord near the fœtal extremity during a precipitate labor, the child falling to the floor, while the woman was in the erect position, before I was in attendance, but causing no harm.

WHAT MEANS CAN BE JUDICIOUSLY EMPLOYED TO SHORTEN THE TERM AND LESSEN THE PAIN OF NATURAL LABOR.

By JOHN MORRIS, M.D., of Baltimore.

From the *Southern Med. Record*, June 20, 1884.—There are three stages or conditions in which uncomplicated labor may become lingering, and to deal with these stages successfully, different procedures must be made use of. First, labor may be lingering when the head is delayed at the brim of the pelvis; second, when the os has dilated to some extent, and the head has descended into the vagina; and thirdly, when it has reached the vulva and impinges on the perineum.

When labor is tardy in the beginning, the os dilating very slowly, the pains feeble and irregular, and the head high up, means may be carefully employed to hasten its progress; but if the woman is cheerful and hopeful, interference may be delayed. This delay must not be suffered to extend, as Churchill and others have recommended, for twelve or sixteen hours, for, if the woman's powers, are allowed to become exhausted in the first stage, instrumental interference becomes a necessity in the second. In the condition described the os is frequently dilatable, but the membranes do not come down to act as a dilating wedge. In these cases it is good practice to detach the membranes around the cervix, and Brown, of Vienna, recommends the introduction of an elastic catheter between the chorion and the walls of the uterus for this purpose; but this can be much better effected, in my judgment, by the cautious use of the finger. After the membranes around the cervix are detached in this way, if gentle pressure is used around the whole margin of the os with the soft part of the finger, gently stretching it, the bag of waters will commence to project, the os will gradually dilate, and the pains become effectual. I have seen many cases of labor in this stage expedited by this plan. In some instances the membranes rupture prematurely, and the head becomes the dilating force. These cases are usually very painful, but they can be greatly hastened if the finger be swept cautiously around the os at each pain. In cases of tardy dilation of the os, due to rigidity, in which the woman suffers acute pain, the administration of opium is most

beneficial, and should always be resorted to. A hypodermic injection of ten drops of Majendie's solution, or thirty or forty drops of McMunn's elixir, given internally, acts like a charm. Ineffectual contractions do injury to the woman, and when you cannot advance labor you had better arrest it. I do not think the administration of chloroform is wise at this stage.

The long forceps are frequently resorted to when the head remains for a length of time at the brim of the pelvis, but their application will seldom be necessary if the means I have indicated be cautiously and judiciously employed. There is no doubt that the erect posture is the best before the head descends into the lower strait. The conservation of the woman's powers, too, at this period is of the greatest importance.

There is usually no danger to the life of the mother in the first stage of labor as long as the membranes remain intact, and, on this account, it may be argued that interference is not necessary; but this view I hold is both inhuman and unscientific.

In what I term the second stage, that is when the head has descended into the pelvic cavity, there are two conditions of lingering labor. In the first, though the os may be pretty well dilated, the labor is retarded by the firmness, dryness, and want of distensibility of the vagina. Free injections of hot water are useful at this time, and if the membranes be intact it is good practice to rupture them. When the vagina is extremely dry and hot, after the use of the hot water douche, the introduction of a large cotton tampon saturated with glycerine and lard serves a good purpose in softening and dilating the parts.

After the rupture of the membranes, if strong external compression be used and the os gently stimulated and stretched by the pulpy part of the finger, the pains will be prolonged, the voluntary powers of the woman excited and strengthened, and the labor progresses to a speedy close.

The second lingering condition in this stage is when the head is very low down in the pelvis; the os dilated to the size of a half dollar, and found far back toward the sacrum, the head of the child being curved as with a cap by the thinned neck of the uterus. This is a most painful state, and calls loudly for assistance. The membranes, if not ruptured, must be punctured immediately, the os stretched and drawn forward toward the pubis, and strong external pressure used during each pain. Ergot is not generally necessary in this condition, but if the pains are ineffectual, its administration is most beneficial; the labor is accelerated; the woman's voluntary powers are evoked; pain follows pain, and the case has a rapid and happy termination.

The third and last stage of lingering labor is where the head has descended to the perinæum and owing to inertia of the uterus, or exhaustion of the woman's vital powers, or the rigidity of the muscles or the perinæum, the labor is indefinitely arrested. Hamilton reports a case in which the perinæum was supported in this condition for one hundred and twelve hours. Ergot may be used at this point combined with external compression, but if delivery does not take place speedily the forceps should be applied. Beattie's straight Dublin forceps is the best, being light and easy of application. These are simple tractors, and can do no harm. I have observed that if we fail in manipulations with the forceps the labor appears to be arrested and the woman's voluntary powers cease to act, consequently unless one feels convinced that the case will be terminated speedily by instrumental interference, it is better not to attempt it. I have frequently endeavored to extricate the head by passing two fingers into the rectum, but have failed in this maneuver for the reason that the force necessary to be employed is likely to injure the soft parts. The proper management of the perinæum is very important. I have been practicing for years a form of attenuation from the very moment that the head commences to impinge upon the outlet, and I believe that I have greatly assisted the efforts of the women. If the head is still within the uterus at this point, it is good practice to make a sweep with the finger and push the os over the occiput.

In conclusion, I would state that the great advantage of the procedures briefly suggested in this paper is, that should they fail, they do not interfere

with the after-use of the forceps, but rather prepare the way for their easy application. Moreover, I hold that, if properly applied, they prevent those two *bête noire* of modern obstetrical literature, lacerations of the os and perineum. In addition to this, I believe that post-partum hæmorrhage, that worst complication of midwifery, may also be averted, for it is the weary, out-worked uterus that floods, not the fresh and vigorous organ.—*Jour. Amer. Med. Ass'n.*

PUERPERAL ECLAMPSIA.

By an OLD PRACTITIONER.

From the *Medical Age*, Aug. 10, 1884:—Recent notes on the subject of puerperal convulsions, in the *Medical Age*, have recalled to my mind an article by Dr. J. E. Burton, Obstetric Physician to the Ladies' Charity, and Lying-in Hospital, before the Liverpool Medical Institution last year.

Dr. Burton commences with a synopsis of the history of the accepted facts, in the order of their discovery. Prior to the year 1842 puerperal eclampsia, as we now understand the affection, was not differentiated as a special disease.

In that year Dr. Lever, of Guy's Hospital, directed attention to the relations existing between albuminuria and puerperal eclampsia, proper. This discovery was amplified in 1851, by Frerichs, who pointed out the resemblance between puerperal and uræmic convulsions, and gave his opinion that true eclampsia occurs only in women suffering from albuminuria. Six years later Carl Braun, of Vienna, published his classic chapters on the subject of puerperal convulsions, since which time little or nothing may be said to have been added to our knowledge on this subject. During the past quarter of a century, therefore, the belief has existed that there exists some obscure causal relation between albumen in the urine and the convulsions known distinctively as puerperal. It is true several skeptics have arisen during this time, who have denied the necessary causal relation between albuminuria and these convulsions, but the generally accepted view is that the following is the sequence of events in this affection:

First, pregnancy; second, pressure on the renal veins by the gravid uterus; third, parenchymatous nephritis; fourth, uræmia, originating in some obscure manner; fifth, the convulsions, but whether by carbonate of ammonia poisoning, or by hydræmia, or œdema, or by retention of the general urinary excretory products, has never been settled to the satisfaction of all parties.

Seyfert, of Prague, opposed the uræmic theory on the ground of the following facts, or supposed facts: First, that convulsions may occur without albuminuria; second, that albuminuria is, in many cases, the effect and not the cause; third, that in many fatal cases the kidney lesions were absent or wholly insignificant; fourth that convulsions are rare in chronic Bright's disease that has existed prior to pregnancy; fifth, that in true uræmia, such as is necessarily produced by the suppression of the urine when the ureters are invaded, convulsions do not occur.

It is now recognized on nearly all sides that convulsions may and do occur without albuminuria, and Lusk even goes further and acknowledges puerperal convulsions without uræmia or renal incompetency—"without uræmia peripheral irritation can provoke eclampsia." Those who insist on the causative relation between albuminuria and puerperal convulsions, overcome these objections by urging that such cases as do not present albumen in the urine are not properly cases of puerperal eclampsia, so called, and maintain that the absence of albumen will enable us, without difficulty, to discriminate between puerperal and epileptic convulsions. Playfair, who does not seem at all wedded to the uræmia theory, says that it has not been proven that albuminuria is a necessary accompaniment of puerperal eclampsia. Dr. Braxton Hicks, while holding that the two are almost invariably combined, says that the nearly simultaneous appearance of them must be explained in one of three ways: First, that the convulsion is the cause of the nephritis; Second, that the two are produced by the same cause, namely, some detrimental ingredient in the blood; Third, that the highly-congested, venous

condition induced by the slight spasm of the glottis is able to produce the kidney complication.

Believing that puerperal convulsions and epilepsy spring from essentially the same cause, Dr. Burton endeavored to learn whether epilepsy is ever the cause of albuminuria. On this point he encountered a variety of opinions, but thinks that the weight of evidence points to the conclusion that epileptic seizures do no not cause albumin to appear in the urine. The third and fourth objections of Seyfert are valid arguments against the uræmic theory. The fifth objection, namely, that in true uræmia, such as is necessarily produced by the suppression of urine when the ureters are invaded, convulsions did not occur, is also a valid one and is emphatically confirmed by Cornil and Ranvier. If, then, such complete retention of urinary constituents, as must of necessity exist in these cases, fail, *per se* to produce convulsions, it seems tolerably certain that some other factor is necessary for their production.

After all that has been written on the subject, Dr. Burton is prepared to admit that, in the majority of cases of puerperal eclampsia, urinary constituents in the blood play the part of contributories to the eclampsia, but he cannot accept the theory that they are the sole cause, and in this he follows Playfair as against most writers. He thinks it would be just as reasonable to put down all epileptic convulsions to uræmia, as to attribute all puerperal convulsions to that cause. Most writers have omitted to mention the common cause that is operative both in the convulsions of childhood and those of the puerperal state. Playfair states it to be a peculiarly excitable condition of the nervous system. Barnes has also drawn the attention to this peculiar state of "unstable equilibrium," as it might be called. As to the immediate condition giving rise to the attack, there is a general consensus of opinion that it is an anæmia of the brain due to spasm of the cerebral arteries.

Dr. Burton thus summarizes his exhaustive and highly readable paper: First, that puerperal eclampsia is a motor neurosis, associated with loss of consciousness; second, that it stands in intimate relationship to the convulsions of childhood and to epilepsy; third, that only one factor in its production is constant, namely, a peculiar condition of the nervous system that may be discriminated as only "unstable equilibrium," and that this factor is common also to the convulsions of childhood and to epilepsy; fourth, that retention of urinary constituents, when present, vastly increases the tendency to convulsions in pregnancy, but that outside the conditions of pregnancy and childhood, such retention is rarely the cause of convulsions; fifth, that nerve irritation, shock, violent pain, uræmia, or other morbid condition of the blood, etc., is capable of setting up a sudden vaso-motor spasm of the cerebral blood vessels; sixth, that this spasm of blood-vessels causing sudden anæmia of the brain, is the cause of the convulsions and of the consequent coma.

If this view of the etiology of the puerperal convulsions be correct, and it is backed by facts and vouched for by men whose opinions are of weight, it not only furnishes a very clear guide to the principles of treatment, but also explains in the most intelligible manner the success which follows the remedies in vogue, namely, chloroform, ether, chloral, bromide of potassium, subcutaneous injection of morphia, and blood-letting. All of these agents, by relaxing the spasm of the cerebral arteries, permit that flow of blood, the stoppage of which has produced the anæmia which is the immediate cause of the attack.

In the discussion which followed the paper, some unique and suggestive ideas were advanced. Dr. Imlach thought that hysteria was the key to eclampsia, and that the mental or psychological aspect of disease was just as important, if not more so, than the material aspects. Nephritis was, no doubt, the predisposing cause. Dr. Barr held that while puerperal convulsions were, no doubt, frequently uræmic, they were also frequently reflex. The fact, however, of the existence of albumen in the urine is not evidence of the uræmic nature of the attacks. Dr. Wallace held that the results of treatment could alone establish the diagnosis between the hysterical and epileptoid forms of convulsions. If the bromide cures the disease, the convulsions are hysterical; if chloral or chloroform cures them they are epilepti-

form. Uræmia is a diminution of the solid constituents of the urine, rather than the diminution of the albumen or of the quantity of urine passed, and should be treated by quieting the nervous centers, either by chloral in the simpler cases, or by chloroform, continuously given for twenty-four hours, if necessary, in the more severe cases. At the same time the skin, kidneys and bowels should be made to act by suitable means.

While there seemed to be a very general consensus of opinion as to the efficacy of venesection in this complaint, several speakers insisted on the necessity of great caution in its employment, and advising that it be used only in *stenic* cases. It would be found useful where there was high blood tension, which, if not overcome, would soon overpower the heart and produce congestion of the lungs. If the pupils were very widely dilated and the patient asthenic, blood-letting would probably do mischief, and other remedies should be relied upon. [The "Old Practitioner" is not an "Old Foggy," evidently. Ed.]

THE THIRD STAGE OF LABOR.

By THEOPHILUS PARVIN, M. D., Prof. Obs. and Diseases Women and Children, Jeff. Med. Coll.

We abstract the following from a report made to the *Philadelphia Co. Med. Soc.*:—And here let me, for the time at least, lay aside these statistics to consider the conduct of the third stage of labor. The subject invites consideration in this paper by the following facts: One of the colored women failing to expel the placenta within an hour after the birth of her child, the gentleman having charge of the case introduced his hand into the uterus and removed the greater portion of after-birth by piece-meal. That patient had septicæmia, and infected each of her neighbors.

Shortly after this I was called to a woman in one of the white obstetric wards, who had been delivered of her child three hours before, but the placenta was retained. The patient's pulse was good; there was no hemorrhage, nothing but the simple fact of delay in the third stage of labor. A little friction of the uterus, and compression of its fundus through the abdominal wall, caused the expulsion of the placenta in a few minutes. There was no fragment of the after-birth or of the membranes retained; the genital organs of the patient were not touched either by the *internæ* or by myself in this delivery, nevertheless she had septicæmia. Finally, a third patient had the placenta retained for nearly five hours, and then it was expelled. She had septicæmia. These three patients recovered.

In studying the phenomena of placental delivery we find there are three stages, viz.: First, the separation of the placenta from the uterus; second, its extrusion from the uterine cavity after its conversion into a foreign body by its detachment; and third, its expulsion from the vagina. Delay may occur in any one of these stages, that in the last, of course, being the most easily remedied. The separation of the placenta from the uterus is made by uterine retraction, and a practical question is here presented: Is this separation facilitated by ligating the placental end of the cord; in other words, ought the obstetrician to use two ligatures, or one? The advocates of two ligatures claim that in this case the placenta, being larger, fuller, firmer, cannot so well follow the retraction of the uterus as it can if thin and flexible from the loss of blood, and therefore in the former case is more certainly and completely detached. This is doubted by some, denied by others; nevertheless it seems rational. But admitting its truth, it is certain that if a single ligature be used the placenta is smaller, and hence can pass through a smaller uterine orifice; this practice, no matter what its effect upon the first, facilitates the second stage of placental delivery.

After uterine retraction has separated the placenta, uterine contractions expel it into the vagina, while the abdominal muscles, aided, it may be, in some slight measure by the contractions of the vagina, cause its final expulsion.

Now a practical lesson from this study of the mechanism of placental delivery is, that adopting the view of Duncan, traction upon the cord—a traction which of course is never to be made when the placenta is still attached

to the uterus—is mischievous, for it interferes with the normal presentation; but if the normal presentation be that of the foetal surface, such traction facilitates the second stage of delivery.

The time required for the spontaneous delivery of the placenta, as observed by Kabierske in one hundred cases in the Strasburg Maternity, varied from thirty minutes to twelve hours.

Few practitioners are willing to trust nature this far, but guard against delay in the delivery of the placenta by following the uterus down with the hand upon the patient's abdomen, according to the expression and the method of the Dublin school, as the foetus is expelled, thus keeping the hand upon the uterus at least as a sentinel to warn of uterine relaxation, and, better still, as a stimulus to, and a reinforcement of uterine retraction. A general observance of this practice reduces to a minimum cases of post-partum hemorrhage, of delay in the discharge of the placenta, and an hour-glass contraction.

And now, coming to a practical point of more direct interference with the third stage of labor, what circumstances demand it, and how is it to be made?

I believe the teaching of the Philadelphia school has been favorable to early interference—at least such delay as shown by the Strasburg statistics would not have been allowed by her great teachers. Now, with all reverence for the names of these great men, and with, I trust, due personal humility, it seems to me their teaching was wrong. Even moderate traction upon the cord, if the placenta be attached, is liable to do harm, and traction is not necessary to find out whether it is detached. The statistics quoted prove that one cannot make a time-table for nature in regard of placental delivery—she may effect that delivery long after Dr. Meigs' hour has passed.

As long as the placenta is wholly attached, hemorrhage is impossible; the placenta is still a living structure, and one with the uterus; to tear it loose, to directly detach it from the uterus, opens the way for perilous hemorrhage. Not only this, but such artificial detachment is usually incomplete, is liable to injure the uterine tissue, and the operator's hand may be the bearer of septic germs, or these may pass in with the air admitted during the manipulation, and find a congenial soil for their development in fragments of placenta, or blood-clots that are retained in the uterus. Therefore, unless hemorrhage demands immediate interference, the obstetrician refrains from passing his hand into the uterine cavity for the removal of an attached placenta; a completely adherent placenta is not so dangerous as the intra-uterine use of the hand for its detachment. I believe, then, that armed expectation is wise in the latter case, only endeavoring, by suitable compression of the uterus with the hand acting through the abdominal wall, to determine or assist that retraction of the organ which is nature's method of separating the placenta. After the detachment of the placenta—a fact which is best learned by feeling a part of the organ with the finger passed into the mouth of the womb—we may, by friction and compression of the uterus, if needed, evoke uterine contractions which will cause its expulsion. Those who believe that the placenta presents its foetal surface at the os uteri, urge the value of moderate and continuous traction upon the cord, thus assisting the moulding of the mass to the orifice through which it is to come. This conservative view as to the management of so-called retained placenta has been strongly presented by Siredey in his recent work upon puerperal diseases. The common expression, retention of the placenta, means very different conditions, each requiring its appropriate treatment.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

By GEORGE A. TYE, M. D., Chatham, Ont.

From the *Canada Lancet*, Aug., 1884:—The object of this paper is chiefly to discuss Credé's method, a method lately warmly advocated by some prominent obstetricians. Unless properly limited it may bring disappointment to the practitioner and disaster to the patient. The third stage, like the preceding ones, is a strictly physiological process and requires no assistance as

long as the conditions are normal. When the uterus has been for a length of time vigorously engaged in the previous stages it is naturally more or less exhausted, and before commencing the third stage requires a period of rest. After this rest contractions occur spontaneously, at first gentle, then gradually increasing in power; each contraction separates a portion of the placenta, and simultaneously closes the sinuses, and finally expels the whole contents of the uterus. The efforts thus begun continue till all danger of hæmorrhage is past. This is Nature's method and can never be improved by Art. It is the practice of some to interfere: 1st, by traction on the funis; 2nd, by external pressure from all sides towards the os. The latter process, known as Credé's method, has been taught and practiced for the last twenty-five years or longer. These methods are both unnecessary, because the process can be accomplished without their aid; they are both wrong, because they tend to deliver the placenta prematurely, that is before sufficient contraction has set in, and therefore favor *post-partum* hæmorrhage. The method of traction on the cord being rarely practiced requires no comment. Credé's method is taught, considerably practiced, and lately warmly advocated, and that in all cases. When Credé's plan is practiced the placenta may be separated by the combined forces of the uterine effort and external pressure. But it is frequently detached by the external pressure alone, after separating a portion of the membranes which are liable to be retained. The placenta acts as a tampon, and as a stimulus while in the uterus and is of service until Nature's *tourniquet*, uterine contraction is ready. When the conditions are abnormal, such as strong adhesions, and strong uterine efforts fail to deliver in a reasonable time, then the method of Credé is valuable and will hasten expulsion. These cases are rare. It is the practice of this method in *every* case that is unjustifiable and dangerous. For ten years I practiced this method and had a large number of hæmorrhages, I was struck by the fact that in all the labors to which I was called and arrived late flooding had rarely occurred. Cases attended by midwives, who do not interfere, were nearly exempt. These facts caused me to abandon the method and to rely upon the natural process as already indicated; the result has been most satisfactory and convincing during the last seven years.

Dr. Garrigues, of New York, in a recent paper before the Academy of Medicine, strongly advocates Credé's method. His first statement is that it should be used in *all* cases. Amongst the advantages that he claims for it is the *prevention* of hæmorrhage, but proof of this assertion is not in the paper. In the discussion that followed Mundé speaks of Credé's method as a very excellent one, and free from danger when carried out aright, but qualifies it thus:—"When carried too far it might cause too rapid expulsion and favor inertia." He still further modifies it by saying, "The placenta should not be expressed until it is detached, but the uterus should be made to contract by manipulation and separate it, then it could be expressed." This statement is true and sound practice, but it is not Credé's method. When the placenta is once detached it is a foreign body and may be safely expressed, even traction on the cord may be admissible.

OBSTETRIC AUSCULTATION.

By THEOPHILUS PARVIN, M.D., Prof. of Obs. and Diseases of Women and Children in the Jefferson Medical College.

From the *College and Clinical Record*, Aug. 1, 1884:—The two most important sounds heard upon auscultating the abdomen of a pregnant woman are the uterine *souffle* and the pulsations of the foetal heart. The former was first called the placental *souffle*, and by some is still thus called, but this is a mistake, for the sound may be heard when there is no pregnancy, and even for some days after delivery, when there has been a pregnancy.

How early in pregnancy is auscultation available for its diagnosis? In the majority of cases and for most physicians some time in the fifth month. In rare instances accurate diagnoses have been thus made some weeks earlier. The uterine *souffle* is of no positive value in the diagnosis of pregnancy; in many cases it confirms, assists, but alone it is not to be depended upon, and

therefore I shall not refer to it again in this lecture. On the other hand, the foetal heart sounds are of the highest value. There are only three certain signs of pregnancy: first, that which has just been mentioned; second, feeling foetal movements—feeling, not seeing, for contractions of the abdominal muscles or movements of the intestines, may cheat your eye; feeling yourself these movements, not trusting the woman's feeling them, for she may be deceived; and, third, recognizing parts of the foetus by palpation. The most important of all, that which can only fail us in case of the death of the foetus, is given by the sounds of the foetal heart. We may be nearly certain, we may believe a woman is pregnant without having any of the certain signs, but we cannot know.

Two matters are to be considered first when we propose listening for the foetal heart sounds: Where shall we listen? How shall we listen? If the pregnancy be only four or five months, the sounds are best heard at the fundus of the uterus; but as the uterus ascends in the abdominal cavity, and especially in the last three months of pregnancy, we should listen at the sides of this organ. Still further, to define the place to which the ear should be applied, mediately or immediately in this woman, imagine a line drawn from the pubic symphysis through the umbilicus, and extended to the ensiform cartilage; then let a line be drawn transversely to this, intersecting at, or a little below the umbilicus, and we thus have the abdominal surface divided into four parts, two upper, and two lower. Next, imagine a line drawn from each anterior superior iliac spinous process, the two lines crossing each other at the umbilicus. The foetal heart sounds, provided the foetal ovoid corresponds with the uterine ovoid, that is the foetus occupies a longitudinal situation, as it almost always does, will be best heard, in the great majority of cases, at the middle point of that portion of these oblique lines belonging to one of the four parts into which the abdominal surface was divided. But as in the great majority of cases the foetus presents the vertex, left occipito-anterior position, we first listen at the middle of that part of the line which extends from the left anterior spinous process to the umbilicus. If we fail to hear the sounds here, or do not hear them distinctly, we next try at the corresponding point on the right side. Failure in each of the lower parts of the divisions of the abdominal surface leads us to seek the sounds in one, and then, if necessary, in the other of the upper parts.

In ausculting, it is better to use a stethoscope, for with it you occupy a less constrained position; you are less likely to hear confusing sounds from your own circulation or muscular contractions; you can define, limit better the space in which the foetal heart sounds are most distinct; and the application of the ear to the naked abdomen is not a very delicate proceeding—it would be very repulsive to some patients, and in others it would be very repulsive to the examiner.

Either in palpating or ausculting, remember to stop if a uterine contraction occurs; you do not get any useful information during such contraction, except the fact of contraction, and if pain attend the process, the patient will attribute it to your examination.

The average number of pulsations of the foetal heart is 140 a minute. Some obstetricians have claimed that by counting the number of beats per minute they can, in many cases, make a successful prediction as to the sex of the child. Thus, if this number be above 145 the probability is in favor of a female, below 135 of a male. Professor Frank C. Wilson, of Louisville, Ky., has given a good deal of study to the subject—more, probably, than any one else in this country—and has had remarkable success in his predictions of the sex of children by this means.

Of course, when one hears the sounds of the foetal heart he knows not only that the woman is pregnant, but also that the child is alive. But he can learn much more, for by ascertaining the place where he hears these sounds most clearly, their point of maximum intensity, he can, in many cases at least, learn the presentation, and likewise be tolerably sure as to the position.

Be sure to avoid all sources of error in obstetric auscultation. It is well to count the woman's pulse before counting that of the foetus; or, when you hear, or think you hear, the heart sounds of the latter, while listening put

your finger on the mother's wrist, and you soon learn that the thrill felt and the sound heard are not isochronous. Be sure, too, you do not confound your own with the foetal pulse, mistaking the former for the latter.

THE SUPPORT OF THE PERINEUM IN CHILD-BIRTH.

By RUFUS W. GRISWOLD, M.D., Rocky Hill, Conn.

From the *New England Med. Monthly*.—The expediency of supporting the muscular floor of the pelvis during the passage of the head of the child was advised by the authorities for many generations, as a rule not to be neglected if the attendant would prevent a rupture of the perineum. As it was so strongly insisted upon by nearly all the obstetrical writers for several generations, it came to be considered that when the accident happened, it was not simply an accident, but that it was rather the result of carelessness or neglect on the part of the medical attendant; that it was one of those accidents which ought not to have happened, and which proper support would have prevented; and the unfortunate physician was cursed accordingly; it was far less damaging to the medical attendant to have his patient die in child-bed than to have her get a recto-vaginal rupture, since the first event was a disaster that perhaps could be avoided, while the latter could and ought to have been.

But finally, some practitioners, putting their individual experience into the place of book teaching, and observing that lacerations sometimes occurred when support had been thorough and assiduous, began to wonder if the accident didn't happen at times rather in consequence of the support than in despite of it. Churchill (Dublin, 1840) began to see so much of the error of some of his predecessors, then he said: "I really believe that it would be better not to touch the perineum at all than to make injudicious pressure. It has been my lot to witness more than one case where rupture was owing to excessive and injudicious support."

The two especial reasons given why the perineal structures should be supported by the hand, were, first, the support itself, and second, pressure through it upon the head of the child to prevent a too rapid delivery. It was laid down: "It is generally admitted that laceration occurs from the head of the child passing through the vagina so rapidly that the perineum has not sufficient time to dilate;" "the accident rarely happens where the labor is tedious or protracted." And the book makers keep repeating this, notwithstanding the fact which Denman observed, and which other accoucheurs must have seen but did not enough pay heed to, that "when women were delivered without assistance," he "had not in *any case* observed any considerable laceration."

The answer to the question does laceration occur chiefly in cases of rapid delivery, and in consequence thereof, as one book writer after another used to state; and was it prevented often by support of the perineum and retardation of the delivery by the immediate pressure upon the head? does not exist in my personal experience. But, theoretically, I do not believe in it. I have known of a great many children being born before there was time for any "proper assistance" to be given, and where there was no assistance given. I have known a great many children born, in cases that came under my observation, before I got to the bed-side of the patient, and a great many very soon after getting there. I have known a great many children to be born "rapidly;" but I have never known of one being born so rapidly as to produce a lacerated perineum. My opinion is that there is more reason to apprehend rupture from a long-continued pressure of the hard skull upon the floor of the pelvis than from any degree of rapidity in its delivery; and it has seemed to me that the advice of Churchill (Am. reprint from 2d Dublin ed., 1853,) when he says: "I must altogether object to any attempt to retard the passage of the child, as erroneous in theory and mischievous in practice," is very sensible.

But, (and here comes a point worth considering), the accoucheur who has practiced perineal support to the degree of actual retardation of the descent of the head, will say and feel that by that procedure he has many times pre-

vented a laceration. Herein lies the logic of the correctness of the advice to prove true that procedure. But is the logic good? Doubtful. It is exactly the kind of logic that is constantly being applied in the practice of medicine to a great variety of matters, but which is essentially untrustworthy and fallacious.

What then to do? Is it better to neglect support altogether? Certainly not.

I do not know that I have ever *presented* laceration of the perineum; but, having escaped the misfortune, one may be indulged in trying to state his method of practice in relation to the matter. There is a kind of knowledge obtained from tactile experience, and to be obtained in no other way, which seems to advertise one of the disposition or indisposition of a pelvic floor to properly relax when or before the head of the child has reached it. This knowledge comes in use along with the contact of each case, and does not come till then, though it may be guessed at from the woman's physique. It is a kind of knowledge as difficult to convey to another in words as is a knowledge of peculiar smells. In cases in which the pelvic floor is tense, rigid, hard, evidencing indisposition to relaxation, it certainly seems best to attempt some measures to overcome the indisposition. To that end, opium is useful, though I very seldom give it for that purpose; chloral, also, though I but rarely make use of that. A thorough emetic is much better than either of the drugs mentioned, and is not offset by any of the objections that can be put against them. At the last end, chloroform is serviceable. Bleeding would tell in such a case; but in these days, patients don't want to be bled. And now, as to manipulation. When you come to a perineum which gives little or no sign of distention or elasticity, do not wait for the head of the child to descend upon it, but put one or two fingers into the vagina, between the floor and the head, and bringing the flats of the fingers upon the floor, gradually distend the whole structure downward in the direction it will have to go when the head passes over it and out from under the arch of the pubes. This direction is rather forward than backward, but generally downward. Do this a number of times,—between the pains, and during the pains,—gently, gradually, but forcefully. You may cause the patient some little pain in the operation, but you will do no injury.

Now as to the support. The advice of Churchill seems good. It is: "It should be moderate and gentle, just so much as to support the parts, but no more;" but it hardly goes so far as it should. What seems to me better advice is, that the support should be given in such a way as to keep the head *as closely to the arch of the pubes* as is possible. If laceration can be prevented, it will be prevented in this way. When there is any apprehension of the misfortune, I wish to have the patient on her side. This is of importance. Either side will do; if on the left side, you use the right hand, if on the right, use your left hand. (Cultivate ambidexterity to the degree of making the left hand work as readily as the right.) Standing at the patient's back, and having both her thighs drawn up well toward the abdomen, and the knees well apart, you are in the best position to put the whole palmar surface of the hand and fingers squarely down upon and over the perineum and vaginal outlet, the ball of the hand being at the anus and the fingers over the vulva. You will thus have all the outward parts fully under tactile observation, and readily notice how matters work when a pain comes on, and will have a better control of the perineal body than can be got in any other way. When, by the descent of the head upon the perineal floor, the tissues are forced outward to the degree of causing any apprehension of rupture, press the whole body of the perineum forward toward the arch of the pubes, keeping it all in the hollow of the hand and fingers. Doing this, you will at the same time carry the head of the child forward to the arch, without making enough upward pressure to in any degree retard its onward passage. The support thus given is of a sliding character, and prolongs the perineum from posteriorly forward toward the pubes; it brings into the account with it as an aid against rupture the strong sphincter muscle of the anus in such a way that the latter receives a considerable portion of the strain that would otherwise more fully come upon the weaker perineal muscles proper between it and the vaginal orifice. If your apprehension of laceration still continues, slip

the thumb (of the same hand) into the rectum, as deeply as can be well done, and over and around the head of the child, and carry the whole body of the lower bowel, for two inches or more upward from the anus, forward to the prolongation and support of the perineum muscles proper, at the same time crowding the cranium forward and downward toward the vaginal opening. Do not attempt to slip the button-hole (the orifice) back over the head, but assist the effort of contraction to push the head *forward* through the button-hole. Now, as is before said, I am a deal doubtful if I have ever *prevented* a laceration of the perineum; but having proceeded in this way when there was some apprehension that a misfortune of that sort *might* occur, and not having had it happen, I incline to take some stock in it as a good method to follow.

This as to support during the passage of the head; now, as to the passage of the shoulders. It would seem that a perineum not torn by the passage of the head, ought not to be torn by the passage of the shoulders, unless there was such a disproportion between them in size as to constitute a deformity in one or the other. I have never seen any occasion to attempt perineal support during the passage of the shoulders, though it is said that now and again extensive lacerations occur at that time. My impression is, that when a laceration happens during the passage of the shoulders, it generally is because the part born is allowed to drag down over the anterior edge of the perineal floor, so that when the next pain comes the shoulders are forced by it *directly* downward upon the floor. After the head is born, it should always be supported, and kept pointed in a direction forward between the thighs of the mother and over the arch of the pubes outside, and not allowed to drag down into the posterior part of the vaginal outlet. If the shoulders stick, as sometimes they will, one of them should be first worked through the passage, and the arm after it; the other can then be turned out, without occasioning any laceration in the passage of either of them.

Summary:—A very large part of the ordinary normal confinements require no perineal support; but every practitioner should endeavor to obtain the experience requisite for a correct decision on the point. The hand should always be at the vulva when the head makes its exit, ready to receive the head and keep it in the proper direction. If rupture is apprehended, position of both patient and attendant is of prime importance. When support is made, it should be to the end of keeping the head close to the arch, and of sliding the perineum forward along with the head until the downward extension of the muscles is as full as is needed. Carrying the anterior portion of the anal sphincter forward to the aid of the muscles in front of it, will supplement their ability of distension and their resistance to division. Maternal effort at expulsion will aid in overcoming the indisposition to relax. After the head is born, keep it supported, and directed forward, till the shoulders are delivered. Instruments and anatomical impediments eliminated, the course of procedure indicated will seldom leave behind any lesion of the perineum requiring surgical interference.

LACERATED PERINEUM.

By C. B. GILBERT, M.D., Detroit.

From the *Detroit Lancet*, July, 1884.—The nature of these lacerations, like other lacerations, is simply a solution of continuity of surface, partial or complete, of the perineum. The partial may be only a few lines in extent, running down to the sphincter ani. The fourchette alone may be torn through, or in more severe cases the rent may include the sphincters. Very rarely a central opening is made directly through the perineum through which the child may pass.

The direction of the laceration may be along the raphe or zigzag, crossing from one side to the opposite in form of the letter S.

The *causes*, or rather conditions, for such they are, that give rise to this distressing accident are peculiar to mother and child. The *principles* which should guide us in all these cases may be taught—the practice never—it

must be acquired. The tendency of direction and force must be studied and obviated.

Treatment is both *preventive* and *curative*. A few of the indications of the former have been referred to. The most distinguishable features of the former, or preventive, is supporting the perineum. *How* this is to be done, and if ever so *well done*, is the subject of controversy. The many affirmations and denials of this method, must, at present, at least, be very embarrassing to the student and junior practitioner. Whatever may be said in favor of it, it must be considered that many of our best writers, past and present, have firmly opposed it, nor will it be charged against them that they are wanting in appreciation of the difficulties to be overcome, difficulties not in the manner of executing the pressure, but in the dangers attending it.

Forcing the head back while it is pushed forward against the pubic arch, by inserting one or two fingers into the anus, the thumb resting on the head, assisted by the other hand, it may be, is perhaps, as good a plan as can be suggested to prevent the laceration.

The plan of lateral incisions is both approved and condemned. I think I should make them, if I saw no better way of escape. Next to changing positions, the use of forceps, by making traction in the right direction with just so much force, and no more, as is sufficient to deliver the head without rupture, certainly is good advice. But in the most skillful hands it has sometimes failed. Yet, no doubt, if properly handled, the forceps is a real power for good. "Result, not rapidity," is to be observed.

In the few ruptures that I have seen, I have not been able as yet to learn at what time of the head's exit the rupture occurred. Sometimes it seems to have happened when the shoulders were passing. But the moment of greatest strain is when the occipito-frontal or suboccipito-frontal corresponds to the antero-posterior diameter of the outlet. If we watch the head while in this position we shall see that resting against the pubic arch the head becomes fixed for a while. Extension has taken place. The face has receded from the chest in its sweep over the sacrum, and is pushed forward by the uterus acting through the spinal column. Reaching the floor of the pelvis the soft parts are now pressed up and for the time being, arrests its further progress. If now the patient is urged to bear down while the pains are strong, or the forceps is used, not in the line of least resistance or depressed before the vertex has quite passed the arch, the dreaded result will be imminent.

What is the history of the curative treatment of these lacerations? Only this—so many devices to achieve the simplest result in operative surgery. One writer will compress the treatment of a severe case into a few lines—another shall need as many pages—whether partial or complete. One party only observing cleanliness, will trust to the resources of nature. Another more distrustful, deems art the most expeditious and better way—only keep the parts in apposition—prevent the intrusion of noxious irritants and the case will get well.

Says one: Be less confident, use sutures, silk, silver-coated iron wire, silver wire, horsehair, twist the ends of the wire, or tip with perforated shot, use the quill suture in partial ruptures, the wire sutures for ruptures through the sphincter. Close up the rent in the recto-vaginal septum, use the catheter once or twice a day to prevent the urine from dribbling through the rent or the lochial discharges, etc., says another.

Now just what in principle we would do in an ordinary case of lacerated wound upon the thigh or nates, or elsewhere, we should do here, keep the torn parts in such apposition that, without hinderance, the pabulum that is to unite the two surfaces, should be allowed to do so. To this end, whatever is likely to prevent this must be obviated. Who does not know that the resources of art are more likely to effectuate this recovery, than if left alone? And what better plans can be devised than sutures of some kind aided by rest and cleanliness?

Now in summing up this matter, does any one of the many methods employed recommend itself to us more than another? I think without doubt

that whatever success attended the let-alone plan with partial rupture, immediate operations with silk wire or quill sutures, shall give the best results.

What is true of partial ruptures is doubly true of complete ones. Should the operation fail at first, after three or four months it may be tried again. It seems almost evident that failures in simple cases should not occur, since when left to themselves these rents are quite likely to heal by granulation. I do not believe that sepsis of itself is an argument, demanding an operation. Delay with the loss of confidence in surgical aid, more than neutralizes the dread of submitting to it.

Healing by the first intention when it can be secured, becomes a positive duty. And again, such is the mode, or the nearest approximation to it by an operation. While the parts are benumbed by labor, and the patient still partially under the influence of ether, the operation is not difficult.

As to choice between silk and wire sutures, the latter are preferred, not as I believe, because less antiseptic, but because of the nature of the grasp they have on the tissues. The tendency of silk sutures, when the ends are drawn tightly, is to assume a circular form, whereas the wire sutures assume the oval form. Approximation throughout the entire surface, not pressing up, is what is desired.

ON PUERPERAL SEPSIS.

By W. HUTSON FORD, M.D., St. Louis.

The primary causes of puerperal diseases may be grouped under four principal categories, so far as fever, inflammation and sepsis are concerned: (1) To structural disorganization by pressure, contusion and laceration; (2) To uterine relaxation after parturition; (3) To putridity of the lochial discharge originating in the system itself; (4) To the implantation of septic matter in the organism from without.

In a paper published in the *St. Louis Courier of Med.*, June, 1884, Dr. Ford reviews the subject from a strictly anatomical and etiological point of view, and reaches the following conclusions:

1. The normal and extraordinary mechanical disturbances of the genital organs and adjacent structures characteristic of pregnancy and labor, constitute the pathological basis of the puerperal phlegmasiæ, which may therefore be primary and in no way dependent upon septic impressions of any kind.

2. Defective uterine contraction after labor must be acknowledged as a cause of metritis, phlebitis, lymphangitis, embolism and pyemia, wholly independent of any septic influences in a number of cases certainly not very large. This defective contraction, on the other hand, is one of the strongest predisposing conditions of the diseases named in presence of lochial septicity or under the influence of septicemia.

3. Septicity of the lochial discharge is the prime cause of puerperal septicemia, and in the very great majority of cases of all the forms of local and general post-partum disease.

4. Puerperal septicemia must be regarded as sporadic, and purely autogenous in many cases. In others, it is due to the activity of septic or contagious matter derived *ab externo*.

5. In the present state of our knowledge it is quite unnecessary to invoke the existence of an essential puerperal fever. What has been so styled is much more probably either an intensified septicemia or the malignant expansion of a febrile process primarily of the irritative grade, and independent of contagion and sepsis.

Prophylactic Indications.—As deductions from the foregoing principles, the main indications for the prevention of post-partum inflammation, septicity of the lochia, and its absorption into the economy, are as follows:

1. During pregnancy the avoidance of all artificial interference, by pressure, with the abdominal circulation, compression of the uterus, extraordinary exertion, jars, blows and sudden motion, the stooping posture or prolonged standing, the regulation of the functions of the bowels and blad-

der, and avoidance of vivid emotions and especially of depressing psychical influences.

2. Avoidance during labor of all mechanical or therapeutical interference not absolutely requisite.

3. Induction of prompt and permanent contraction of the uterus after delivery, and quietude of the bowels and pelvic organs.

4. To maintain the freedom of the uterine cavity from organic debris and patulousness of the utero-vaginal canal.

5. To prevent septicity of the lochial discharge.

6. To repair immediately after labor such traumatic injuries as are susceptible of operation, and to prevent the contact of the lochia with lacerations or newly repaired wounds, or its stagnation around them.

I cannot think it necessary in private practice to adopt the stringent measures of disinfection lately recommended by Dr. Thomas, such as the removal of curtains and upholstered furniture, the washing of the floor and ceiling with antiseptic solutions, and the sponging of the bed and mattress with the same solution. Such precautions are certainly advisable in hospital practice and during epidemics of puerperal septicemia, but may be dispensed with when the patient is isolated and the hygienic surroundings good. I am convinced, however, that the mattress and the bed-clothing ought to be new and, according to the French plan, especially prepared for the occasion. No coverings should be used which, as is often the case, may even at a remote former period have come in contact with scarlatinous, diphtheritic or other patients affected with malignant or contagious febrile disorders. The most stringent care should be exercised that no one approach the lying-in woman who has been near a patient affected with pyogenous or septicemic disease of any kind, or the subject of laparotomy, or any grave surgical affection or operation which requires handling or dressing, or who has witnessed or conducted any post-mortem examination or dissection, or who has handled any morbid specimens, either fresh or preserved in alcohol, during the previous week, without special self disinfection.

Under no condition is any one justified in approaching a parturient woman while attending upon a case of puerperal fever, septicemia or erysipelas.

All the usual antiseptic precautions for operations upon the uterus, cervix and vagina should be observed.

If the cervix is lacerated or perineorrhaphy or any important obstetrical operation has been performed, the syringings of the vagina should be done *every four hours and after every act of urination.*

When the lochia is fetid and endometritis exists we must regard ourselves as face to face with the enemy. The uterus must now be washed out as well as the vagina, twice as often. It may be advisable to limit the washings to the vagina for the first twelve hours, as sometimes the fetidity is purely vaginal, so that this may be enough. After such a period, if the putrid odor persists, the uterine cavity itself must be washed out.

The bag-syringe is the only one which should be used for these intra-uterine washings, as it can be easily managed so as never to throw air into the uterine cavity, which will happen sometimes with all forms of bulb syringes.

Therapeutical Indications.—When the septic matter has penetrated into the system, as shown by the occurrence of a rigor, high temperature and rapid pulse with prostration, the causes of these phenomena must first be sought in the conditions of the uterine cavity and vagina.

The uterus must be thoroughly washed out with a permanganate solution of the strength already indicated or a two per cent. solution of carbolic acid. The washings must be continued until the fluid returned is devoid of odor, and if fragments of placental tissue still remain attached they must be removed with forceps or the blunt spoon, the speculum being used to retract the perineum and facilitate these operations.

The uterine washings must be afterward conducted as before but administered still more frequently, every two hours or even every hour until the temperature falls. The antiseptic solutions may be increased in strength if deemed necessary, and weakened again when the lochial fetor declines.

Our main therapeutical resources in these cases of sporadic septicemia, are the salicylates, quinine and iron, and if the pulse be bounding and full, but never otherwise, *veratrum viride*. Drugs, however, are in my opinion, quite secondary in importance to the intra-uterine and vaginal washings. Cold applied to the abdomen, either by a rubber coil or cold compresses, is a popular and most effective method of reducing temperature. Still, in septicemia, we should use cold with great care in this way, and watch its results. Iced applications should certainly be avoided, and very moderate cooling such as is effected by the rubber coil would be all that we should venture upon. Barker's late observations upon the use of cold to the abdomen are greatly to be taken to heart as the result of most sagacious and extended observation.

The borated napkins should from first to last be kept in contact with the vulva, and urination and defecation should be always followed by a vaginal washing.

If these measures fail, it will be in consequence of the extraordinary intensity of the contagium, as in the hetero-genetic cases, or during epidemics, or where parenchymatous inflammation has been excited. In such cases, no amount of antiseptic washing will prevent the occurrence of metro-phlebitis and pyemia, or of consecutive inflammation of the peritoneum and other serous membranes. These phenomena are beyond the control of the syringe, when once established.

POST-PARTUM INTRA-UTERINE INJECTIONS OF CARBOLIC ACID.—AN INQUIRY INTO THEIR PROPRIETY.

By H. V. SWERINGEN, M. D., Fort Wayne, Ind.

From the *Obstetric Gazette*, June, 1884:—I have now given you a faithful history of the foregoing cases, which have so recently come under my observation, for the purpose of introducing the subject of post-partum intra-uterine injections of carbolic acid.

In the Academy of Medicine of the city of New York, recently occurred an interesting discussion on the "Prevention and Treatment of Puerperal Fever," in which the distinguished gentlemen, Drs. T. G. Thomas and Fordyce Barker, were the principal disputants.

When the propriety of an orthodox practice much observed and seemingly popular, becomes, by a leader like Prof. Barker, doubted, it is wonderful with what facility the infection of skepticism spreads throughout the ranks of the profession, and with what suddenness sprigs of incredulity shoot up in every direction.

Upon the question now under consideration the time is ripe for our ranks to break. Indeed, it has for a long time been a question in my own mind whether or not post-partum intra-uterine injections of carbolic acid were proper or safe, and I was simply waiting for some master to say they were not. While Prof. Barker has not said so in so many words, he has, in his language, left sufficient room for doubt.

When debates of this character occur, it is very natural for the physician who reads them, to sustain one or the other of the participants, if either corroborates his own experience. I therefore feel inclined to sustain in my feeble manner Prof. Barker's views on this subject, because they accord with my own.

My own individual method of reasoning out my objection to this universal procedure is as follows: Carbolic acid is a protoplasmic poison; destructive to all forms of life, whether vegetable or animal. The external application of carbolic acid *has* destroyed life. When applied to the skin, it acts as a caustic, turning the cuticle white. It causes very great local anæsthesia, extending inward for some depth, to the tissues with which the acid has *not* come in contact.

Can it be possible, then, in view of the well known effects of carbolic acid, that its intra-uterine application is proper or safe under any circumstances connected with post-partum cases? Will not its escharotic effect interfere

with the proper drainage of a suppurative uterine sinus by coagulating the albuminates in its open mouth and thus seal or render pent up whatever pus may be contained therein? Does it not retard instead of invite the appearance of healthy granulations on a sloughing surface? Does it not prevent the exudation of lymph and the formation of new membrane in the post-partum uterus? Does it not by its paralyzing, anæsthetic, escharotic effect interfere with the nerve force employed in the process of involution?

It is my opinion that in all cases of inflammation resulting in suppuration, nature erects a barrier for the protection of the general system against the absorption of pus. In the case of an ordinary abscess, as you know, the pus is enveloped by a sac called the pyogenic membrane from which it is supposed the pus is derived or by which, we are taught, the pus is secreted. Whether this be true or not, I look upon this membrane as a wall of defense for the general system, protecting it against pyæmic absorption. If this be true of an abscess, I take it for granted that it is equally true of the suppurating internal surface of the womb; that nature understands her business here as elsewhere, and protects the system from infection by the formation of some such membrane or wall of defense. Now, I believe that in the cases under consideration, intra-uterine injections of carbolic acid, while they destroy the offensive odor and render for a time the suppurating surface cleanly, destroy, also, by their escharotic effect, this membrane or barrier or wall of defense.

Cleanliness is the all-important object to be attained in the treatment of a sloughing surface, and this can be secured without the use of so potent an agent as carbolic acid. Even if cleanliness is not absolutely secured, if there be proper drainage and no absorbing surfaces, recovery will certainly take place. Most if not all escharotics are antiseptics and disinfectants, but it by no means follows that all antiseptics and disinfectants are escharotics or even irritants. Frequent cleansings with warm water alone is a procedure often sufficiently antiseptic, antizymotic and disinfectant; if not sufficiently disinfectant, there are plenty of harmless agents that may be employed, such as permanganate of potassium, bromo-chloralum, sol. chloride of soda, etc.

An offensive lochia *per se*, is by no means an indication of a fatal termination.

Puerperal pyæmia and puerperal septicæmia may exist conjointly; and metropéritonitis or the old childbed fever may be added in the same case and yet prove nothing against their separate and distinct entities. The blood may be poisoned by three distinct poisons at the same time, for instance by strychnia, arsenic and belladonna, the symptoms of each masking to some extent those of the others.

Dr. Murchison has clearly shown the co-existence of scarlatina and variola, of variola and rubeola, of variola and erysipelas, of whooping-cough and bronchitis, etc. We constantly see opium and digitalis, jalap and mercury, and many other combinations of medicines, each producing its proper effect, more or less modified by the others, in the same system at the same time. There is no fact better established in medicine than that a combination of Epsom salts and senna produces a more efficient and pleasant action than either separately. The occasional co-existence of these several diseases is calculated to confuse, I admit, but the fact that they occur separately constitutes them peculiar entities.

PROPHYLAXIS OF THE PARTURIENT BREAST.

By FRANKLIN TOWNSEND, M.D., Albany.

From the *Medical Annals*, July, 1884.—The more important factors which lead to the measures about to be described, when briefly summarized, would be thus represented, and must be dealt with, each one separately: (1) Birth of still-born child before lacteal secretion has commenced. (2) Death of child after lacteal secretion is in full tide. (3) Galactorrhœa. (4) Diseases, malformations and distortions of nipples. (5) Neuroses.

The necessity of "drying up the milk" in the first instance, that is, where the mother has given birth to a dead child, and before such secretion has

formed, we must all be cognizant of. Indeed, no more fitting time and opportunity can be presented for such a measure to be begun, for the breasts are, as a rule, almost completely free from any great accumulation of secretion, either of mucous, colostrum or milk.

Granting, then, a time which may be utilized for the prosecution of our treatment, these questions may be asked: (1) What method or methods are the most prompt and efficient for controlling the lacteal secretion? (2) What is their *modus operandi*?

To the first question we would say that by mechanical pressure *alone* are we enabled to combat perfectly any further flux from the gland; and, secondly, by the action of certain drugs like belladonna and iodide of potassium, with ergot, a similar result may be obtained, though more or less perfectly in comparison. Indeed, it is advised that *both* methods be applied *conjoined*.

The following is the author's plan of carrying out such forms of treatment: (1) Remove by gentle manipulation any traces of secretion from the breasts. (2) Place over them, *including* the nipples, the official belladonna plaster, made fresh and spread on kid. (3) Elevate the glands as high as possible, and direct a strip of adhesive plaster, two and a half inches wide by from two to two and a half feet long, from just above the iliac crest of one side of the body across the chest, pushing firmly upon the breast of the opposite side, thus raising and flattening the gland against the underlying muscles and ribs, finally bringing the strip over the shoulder of the same side and attaching it closely to the skin below the inferior angle of the scapula. The same directions will apply to the application of the strap to the opposite breast. (4) After a day or two possibly the straps may loosen a trifle, and, such being the case, it is only necessary to make greater tension, by raising the straps from behind free from the shoulders, and, pulling until the breast is as high and flat and hard as previously, the straps may again be made adherent to the skin below the scapula. (5) On the second or third day it is a wise plan, in our estimation, to give a dose of magnesia, compound liquorice powder or even an enema. (6) On the eighth or tenth day the strapping may be removed entirely, when there will be found little or no secretion of milk in the glands and no tenderness of these organs.

In our second example, viz., death of a child after full establishment of the secretion in both breasts, we are at once confronted with a dissimilar physiological condition and one which must of necessity call forth a different plan of treatment from that already maintained.

1. To disengage the distended and weighty glands of their secretion by means of (1) artificial suction, as with the breast pump, or (2) by delicate manipulation with the hand, as rubbing and compressing from the base toward the nipple in the direction of the lactiferous ducts, the breast being previously anointed with either vaseline or sweet oil. After removal of the larger portion of the retained secretion—and this should be pretty complete—as shown by their soft and pliable condition, it is recommended

2. To apply thoroughly over the whole gland official belladonna ointment, the nipples being included, after which cover the gland with a circular piece of belladonna plaster, an aperture having been previously made in the centre for the admission of the nipple, through which it is allowed to protrude.

3. To strap the breasts up precisely in the same manner as above recommended, with the exception that the nipple be allowed to protrude through a hole cut in the centre of the plaster. After the glands are held in perfect position.

4. To introduce belladonna in form of solid extract, gr. $\frac{1}{4}$ t. i. d., or in form of the official tincture, \mathfrak{M} x. to xii t. i. d., or, if preferred, to give iodide of potassium in five-grain doses three times daily, with ergotine, gr. i, in pill form.

5. To recommend almost total abstinence from drinking any forms of fluid, and to eat very sparingly of the most digestible and assimilable forms of food.

6. To move the bowels freely by laxatives and enemata.

7. Should there be, as frequently is the case in conditions here cited, further secretion sufficient to produce distension and "knotting" of the ducts

with tenderness, tincture of iodine painted in a strip about one inch broad so as to completely encircle the breast at its base will be found to be effective and energetic in ameliorating these disagreeable symptoms.

8. It will be understood that the continued application of the breast pump may be required, also, at intervals of from six to twelve or twenty-four hours; greater frequency will only tend to perpetuate the flow. Usually it may be altogether discarded.

9. As in the previous condition alluded to, the strappings must *always* be kept tense, and the pressure upon the glands equalized over the largest portion of their anterior aspect.

10. After from ten days to two weeks, according to the circumstances of the case under observation, the dressings may be wholly removed. A full diet, combined possibly with a tonic, if need be, might then be enjoined.

A third and most distressing factor which calls for our interference is the condition termed "galactorrhœa," especially that form which is designated "mammary diabetes."

The method best adapted to such cases is, in short:

1. To empty the breasts as has previously been mentioned. 2. To strap, after covering with belladonna plaster, the breasts in the usual manner. 3. To administer belladonna internally. 4. To employ such dietetic measures as are most likely to repair the sadly degenerated health. 5. To use, as soon as expedient, tonic ferruginous medication.

In view of the liability of various forms of disease of the nipples to extend to the underlying glandular elements, producing inflammation, with its possible serious consequences—it would seem to the writer that their treatment should be a matter of no little interest to every careful and judicious medical man. Erythema, excoriation and fissure, besides ulcerations and hyperæsthetic conditions about the areola, may never show the light of their unwelcome countenances by a little judicious care exercised early, say a few weeks prior to the expected confinement. It has been the custom of the writer in such cases as mentioned to recommend, four weeks before expected confinement, applications to the nipples nightly (just before retiring is as appropriate a time as any) of some one of the following embrocations: Alcohol and water, equal parts, or brandy and water, two-thirds of the former to one of the latter, a weak infusion of green tea, or a weak solution made of glycerite of tannin 3 i, to rose water 3 iij. All pressure from tight-fitting clothing or cumbersome, ill-adapted corsets should be early removed, as the friction excited by their presence is an incentive to the realization of just such primary conditions. Should there be present, either by pressure or through congenital malformation, a flattened depressed or even inverted condition of a nipple, the early use of the breast pump is indicated, and its use should be constantly persisted in. If, after repeated trials, the breast pump fails, we have witnessed excellent results from the use of dry cups placed directly over the nipple, the air being exhausted after the usual method. As a last resort, and one which, when suggested, we must confess is not always agreeable to our patient, is the use of a strong, clean and dextrous *sucking pup*.

For simple excoriation, where rupture of the vesicles has not even taken place, probably there is nothing better than the application of Goulard's extract. If ulceration, though, be present, with a high state of inflammation, a delicate poultice of bread and milk is indicated, after which, should all the acute symptoms subside, nothing is better, we think, than touching the ulcerated points with the solid pencil of nitrate of silver. The pain resulting, though severe at first, quickly subsides, and the diseased parts are afterward protected by a coating of albuminate of silver. In these cases less frequent nursing is also advised, as is the wearing of a suitable nipple shield either of glass or hard rubber.

POST-PARTUM SYNOVITIS.

By JOHN FERGUSON, M.D., L.R.C.P., Demonstrator of Anatomy, Toronto School of Medicine.

From the *N. Y. Med. Jour.*, July 26, 1884:—The subject of the following account was delivered of her first child on the 22d of February. The woman.
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man was in her thirty-third year, was of slight figure and nervous temperament, and had been for years a great sufferer from dyspepsia. The labor was an extremely difficult one; the os uteri was very rigid, the pelvis deep and contracted in all its diameters, while the perinæum was tense and unyielding.

I applied the forceps with the hope of being able to adjust the position. This I could not accomplish; and, as the head became firmly wedged in the contracted passage, it became necessary to get assistance. Dr. Bryce was sent for, and we had fully two hours' hard work before we could bring the head down. During the passage of the head the rigid perinæum gave way, clean through into the rectum.

When the delivery was over the patient was in a state of extreme exhaustion, and was allowed to rest for a short time. I returned and put in five deep sutures. The patient became feverish almost from the first. There never were any chills. On the third day her temperature had reached 105° F. There was marked delirium. On the evening of this day there was a medium severe attack of uræmic convulsions. I gave most stringent orders to keep the legs tied together. This was not so carefully attended to as I could have wished.

Utero-vaginal injections of either the bichloride of mercury or phenol were given every four hours. In about two weeks from the date when the patient began to sit up, or six from the date of labor, and when the strength had been sufficiently regained to permit of the greater part of the day being spent out of bed, a pain was felt and complained of, at one of my visits, in the left wrist. On examination, it was found to be tender, a little swollen, only very faintly reddened, and painful on motion. There had been no chill whatever. Soon, however, other joints became involved, and the disease traveled from one to another, until all had been invaded with the exception of the right hip.

At no time during the course of the joint-inflammation was there any albumen in the urine, as shown by repeated examinations. The secretion of the skin was never sour or acid in smell.

No abscess formed during the progress of the case. The swollen, reddened, and generally tender condition of the joints subsided in four or five days to a week. There were usually several attacks in the same joint.

From the date of the arthritic seizure until it began to subside there was a sallow hue in the skin, at times almost approaching to a very faint jaundice tint.

The pulse was weak, soft, and irregular, and ranged about 100 to 110. The temperature varied often, but was never high. At no time were there chills. nor any irregular sensations that could justly be regarded as their analogue.

On two dates the skin of the scalp was excessively tender.

The patient never had had ague, nor had she lived in an ague locality. Now, if we ask the question, What was the true nature of this case? several answers present themselves for our choice: First, there is that of an ordinary attack of acute rheumatism. Now, I am inclined to rule this out. There was not that marked rise of temperature that we would expect in a case so severe as to involve so many joints. Then again, the sweat had not the sour smell we find in these cases. The disease also appeared to have more of a synovial character than that of true acute rheumatism, and, finally, the temperature remained elevated for about two weeks after the joints became free from pain. On the other hand, the metastatic nature of the disease, the erythema nodosum, and, according to Buzzard, the tenderness of the scalp, point to its rheumatic nature.

Against its truly pyæmic character may be adduced the fact that at no time did there occur the formation of an abscess.

It seems to come more under that class of cases where the absorption of impurities gives rise to joint affections without the formation of pus. Barwell, in his work on the diseases of the joints, mentions that he has met with altogether four cases of post-partum synovitis; and, from his description, they pursued a course somewhat like my case.

Quinine in five-grain, and potassium bicarbonate in thirty grain doses, as advised by Garrod, were given, after the preparations of the willow had been

tried for three days, and failed. These doses were given every four hours. The mixture gave very great relief to the joint pains. When the alkali and quinine had been used for about three weeks, the stomach became irritable, and would no longer bear the treatment.

Barwell's treatment for these cases was then adopted with great advantage. This consists in giving about fifteen or twenty grains of sulpho-carbolate of sodium, with about two grains of quinine, in half an ounce of camphor-water. The whole condition of the patient was greatly benefited, the skin becoming clearer and the joints freer, and there were less exhausting perspirations, a better appetite, and no nausea at the medicine.

No local treatment was employed, as there was not the slightest evidence of any discharge from the genitalia.

MENSTRUATION A PATHOLOGICAL PROCESS.

By J. J. REYNOLDS, M.D., Defiance, Ohio.

From the *Detroit Lancet*, Aug., 1884.—In regarding menstruation as unphysiological, I am aware that it is contrary to generally received doctrine.

Viewed in the light of physiology, no theory has ever been advanced that has proven satisfactory.

Briefly speaking, the changes that take place in the uterus *previous* to menstruation are a gradual increase in the size of the organ—with vascular turgescence—and hyperemia and thickening of its lining membrane. Coincidentally with these changes in the uterine tissues, which thus far are physiological, an interesting work is progressing in the ovaries, viz: The maturation of a Graafian follicle; which, when complete, results in its rupture and the escape of its contained ovum.

The function of the uterus is to contain the fecundated ovum during its development into a being capable of independent life. It has no other office to perform in nature, except (I may add) its action in parturition.

While the ovum in the Graafian follicle is maturing sufficiently to change its habitation from the ovary to the uterus, the latter organ being apprised of what is taking place (through the generative nerve centre), is preparing to receive it. Hence the changes in the uterine tissues before referred to, for the purpose of preparing nutriment for its new inhabitant.

When the ovum is ripe it leaves its first abode, seeking for its mate—the spermatozooids from the male. Nature's plan is that the ovum shall be met by this fecundating element. Now if its anticipations are realized a new life is given it, and on reaching the uterus where preparations have been duly made for its reception—a nidus for its lodgment, abundant nutriment for its sustenance—it takes up here its abode, appropriating to itself the nutriment in store for it and constantly receiving more.

If, however, the plans of nature are foiled,—if, in its search for its mate it is disappointed—the entire system is thrown into embarrassment. The ovum is not in condition to receive the nutriment in store for it, the uterine membrane becomes more and more enlarged, its epithelial covering undergoes a partial fatty degeneration, the cells are thrown off, the distended capillaries rupture and the nutriment accumulated wasted. This is menstruation. It might be called a pseudo-abortion.

The difference, then, between menstruation and abortion is that with the former a non-fecundated ovum is lost, and with the latter one that has been fecundated. The first is pathological, since it would not have occurred had nature's plans been realized. The second would not have occurred but for some abnormal action.

It is no uncommon occurrence for women to become pregnant during lactation without having menstruated since the last confinement. A woman married in September, 1859, menstruated the next month, but not again until June, 1870. In the interval she had six healthy children. Another woman married in January, 1856, and menstruated but three times during the next fourteen years and six months, but gave birth, notwithstanding, to nine

children during that time. *In these cases the women had menstruated regularly until marriage.*

Now, these and similar cases with which the profession in general is quite familiar, can only be explained by supposing that when the first ovulation after delivery, and during lactation, occurred, the ovum was met by the fecundating germs, and, as a result, fatty degeneration of the cells of the uterine mucous membrane, hemorrhage, etc., were avoided. Nature triumphed. *A false abortion* was prevented.

Medical literature furnishes numerous instances of pregnancy occurring before menstruation had appeared. Many of these are adults, whose generative organs may have needed the stimulus of coitus to rupture a Graafian follicle. Others were healthy girls from eleven to seventeen years of age. I find one recorded case at nine years of age. How are these cases explained? Simply by saying that impregnation took place at the time of the first evolution. Had nature's plans been disregarded, the ovum in each case must necessarily have perished; and, instead of a physiological development, a pathological degeneration and hemorrhage would have been inevitable.

Menstruation should be regarded as unphysiological, because women at this time are *not well*. It is significant that they themselves speak of being "unwell." A physiological process should not interfere with health. I doubt whether it *ever* occurs that a woman is as well during a menstrual epoch as at other times. If there are occasional exceptions, they but prove the rule. In fact, the symptoms of what is called normal menstruation differ from a true abortion only in degree, and the earlier the abortion the less the degree of difference.

That removal of both ovaries causes disappearance of the menstrual symptoms is, it seems to me, proof positive that menstruation is dependent on ovulation. The exceptional cases, of women continuing to menstruate after the removal of both ovaries, do not disprove the theory.

According to this pathological theory, menstruation and ovulation must be simultaneous, or nearly so. That impregnation *may* take place at any time during an interval, is no proof of the contrary, since we do not know how long an ovum remains in the uterus without being fecundated, or the duration of viability of the spermatozooids.

The question may be raised in the minds of some, that if menstruation is the loss of nutriment provided for the sustenance of so minute a being, why so much waste of blood? To this I will reply that the waste need not necessarily represent the amount stored up for that purpose, but that after the occurrence of the retrograde changes—fatty degeneration and rupture of capillary walls—a much greater hemorrhage would be likely to occur than would represent the amount in store for the physiological purpose for which it was intended.

As a last argument that menstruation is pathological, I will refer to woman's special and peculiar duty in procreation. On account of this all-important work which has been assigned by the laws of nature to the female sex, we see in them a special and characteristic action. During the whole of the child-bearing period, from puberty until the menopause, there is an over-production of nutriment. Nutriment that cannot be appropriated by the system in which it is produced, what is it for? During pregnancy it is to sustain the life of the fœtus in utero. During lactation it is to nourish the infant during its first months of independent life.

Now when this over-production is appropriated to its proper use, we have a physiological action; when it cannot be so disposed of, its waste is simply the manifestation of an interruption in nature's course, and is certainly pathological.

That these oft-repeated pathological discharges are attended with so few embarrassments to the system, is but one of the many evidences of the unparalleled wisdom of nature, in that these frequent interruptions were foreseen, and the means provided to meet the consequences with the least possible constitutional disturbance. For the same reason, many women abort repeatedly, at frequent intervals for years, without materially affecting their general health.

AN EXPERIMENTAL RESEARCH ON THE UTERO-PLACENTAL CIRCULATION.

By J. P. PYLE, M. D., Wilmington, Del.

Dr. Pyle in a paper published in the *Philadelphia Med. Times*, July 12, 1884, reports his experiments and gives the following summary:—From the above record of my experiments it is seen that the transition of solid particles from the mother to the fœtus is an established fact. An analysis of the experiments shows as follows:

Nineteen experiments were made with the ultramarine liquid. With one exception, I found the blue well distributed in the maternal organs. The total number of fœtuses obtained from these animals was sixty-one. Of these, forty-six gave positive results; i.e., the fœtal tissues were impregnated with blue granules in varying quantity. Only fifteen of these fœtuses gave negative results; i.e., blue granules were not found. Of the placentas, only fifteen were examined,—thirteen of these showing blue granules and two giving negative results. Of the thirteen umbilical cords examined, eight gave positive and five negative evidence.

It is also seen that ten experiments were made with septic poisonings, with the object of studying the transition of bacteria from the mother to the fœtus. The maternal tissues were in every instance impregnated with bacteria. Of the thirty-nine fœtuses examined, in every one identical bacteria were discovered. Eight of the placentas gave positive results, as well as seven of the umbilical cords examined. The control experiments, two in number, made with the object to determine whether or not the bacteria were of accidental occurrence, gave negative evidence. It is true that putrefactive bacteria do occur in animals after the lapse of a certain time after death, and this I observed in the blood from the heart of the animal which was examined eighteen hours after death. But even here the fœtuses were free of them. Moreover, it can be seen from my experiments that the examinations were made immediately after death or within a few hours, and that only bacteria pertaining to septicæmia (micrococci) were seen, and not the organisms of putrefaction, which are dumb-bell-shaped and rod like.

The few negative results are certainly of little significance in contrast with the many positive observations, especially in view of the difficulty in making the examinations. In many instances, especially in the case of the ultramarine liquid, I at first had regarded the results of some experiments as negative when, after a prolonged search, they proved otherwise, a new portion of the same tissue yielding at once the blue granules.

The observation in the human being which I had the exceptional opportunity of making I regard of still greater importance than all the experiments combined. As described above, I have observed that the bacteridian disease of the mother is transmitted to the fœtus. The examination of the fœtus in this instance, which was removed by Cæsarean section, was made one hour after the death of the mother. In this case also the bacteria in the blood and tissues of the fœtus could surely not be accidental.

I do not stand alone in bringing forward proof of the proposition that solid particles may pass from mother to fœtus. Perls (*Lehrbuch der Allgemeinen Pathologie*, II. Theil, 1879), Caspary (*Vierteljahrsschrift für Dermatologie und Syphilis*), Reitz (*Sitzungsber. d. Akad. d. Wiss. Wien*, 1868, lvii.), all quote personal experiments and observations of others which prove that solid particles can pass from mother to fœtus. The observation of Prof. Friedrich of cancer metastasis from mother to fœtus in utero is also extremely interesting and suggestive in connection with this question.

There are on record some few observations which are opposed to the facts brought forward. Most of them, however, are mere statements. The only instance worthy of mention is that of Prof. Greenfield (*Lancet*, December, 18, 1880), who denies that the bacteridian disease is transmitted to the fœtus, stating that the blood and tissues of the fœtus of an animal dying of anthrax were found not to contain bacilli, whilst those of the mother swarmed with them.

DISEASES OF WOMEN.

ON THE IMMEDIATE AND REMOTE EFFECTS OF EMMET'S OPERATION.

By JOSEPH TABER JOHNSON, M. D., Prof. Obs. and Syn. Univ. of Washington, D. C.

From the *Jour. Amer. Ass'n*, July 5, 1884:—The title of this paper indicates the desire of its writer to draw attention to some of the immediate and remote effects of trachelorrhaphy.

I wish to propose that we should, in simple justice to its great originator, speak and write of this operation—which Thomas, Marion Sims, Fordyce Barker, Goodell, Howard, Jenks and others have spoken of as one of the most important contributions which have been made to gynecology (within a quarter of a century, Thomas)—as *Emmet's operation*.

The importance and the indications for the operation, the preparatory and after-treatment, have been discussed until all questions in regard to it seem in a fair way to be definitely settled.

Upon its more remote effects, however, there has been very little evidence recorded. The inquiry has arisen in many minds, what is or will be the condition of the uterus, say one, five or ten years after a laceration has been successfully restored by Emmet's plan?

If this surgical procedure, which has received the endorsement of all good gynecologists the world over, who have properly tested its merits, is followed by sterility as a necessary consequence, or, if it is the cause of severe and protracted labors as claimed, and if re-laceration occurs from any reason fairly traceable to the operation itself, I thought such facts should be placed on record, as a warning to this and future generations, together with additional facts relating to the occurrence of primary and secondary hæmorrhage, cellulitis, peritonitis or death, and the proportion of cases stated in which these accidents occur. Many have regarded this as one of the safest and most unusually successful operations in surgery.

In order to learn these facts I addressed a letter to a number of gynecologists, asking for information upon these topics, with the statement that I desired to place their replies upon record for the purpose of supplying the missing link, so to speak, in the history of this subject. In my letters of inquiry I requested information upon the following points: (1.) Number of operations performed. (2.) Number of times pregnancy has followed the operation. (3.) Character of the labor. Whether unusually severe, protracted or natural. (4.) In what percentage of cases did re-laceration occur. Whether in the same place or on the opposite side. (5.) Have any of your operations been followed by secondary hæmorrhage, pelvic cellulitis or death?

I have made a table of the replies of twenty-six gynecologists which I herewith present to the Section.

It is apparent that a majority of the cases have been operated on in charity hospitals and in consultation practice, and when patients are discharged cured, they have passed entirely from observation, and their subsequent histories are unknown. It is not logical reasoning therefore to argue that *because* they are not known to have borne children, they were *therefore* sterile, and made so by the operation. In the replies to my inquiries this point, I think, is made emphatic. It also appears that as many women are past 40 when they apply for treatment, they have already reached an age when they are not likely to become pregnant, and furthermore that as they have gone through so much suffering, the result of childbirth, before obtaining relief, in many instances they are known to have used precautions against future conceptions. It frequently happens also that the operation is performed on widows. I have operated upon several of this class.

So many women have borne children who have sustained the injury under discussion, that it cannot be honestly claimed that they were sterile before

the operation. Those who claim that the operation causes sterility should not operate upon any woman wishing to have more children, unless they hold the erroneous opinion of a previously induced barrenness, and believe, therefore, that trachelorrhaphy could not add to the existing trouble.

It is thus manifestly incorrect as well as unfair to judge the question of apparent sterility by purely statistical evidence. One cannot properly say that all women not known to have conceived after this operation were made sterile by the operation, and argue from such premises against the propriety of its future performance. I have presented evidence from hitherto unpublished sources of more than 100 cases of pregnancy following Emmet's operation, and that the labors have not been unnatural, and re-laceration was a surprisingly rare occurrence. If re-laceration were to occur upon the opposite or same side, I fail to see why, if the indications for the operation were prominent and unmistakable, it should not have been performed and the patient relieved from present suffering and future danger. If it should tear out, it could be easily sewed up again.

If a patient requires perineorrhaphy for her safety or comfort, no gynecologist, it occurs to me, would refuse to operate for fear of a possible re-laceration of the perinæum in some future labor. The surgeon's duty is to relieve present ills, and not stay his hand for fear of those he knows not of.

It should be taken into account also that Emmet's operation, as all other operations in surgery, may be improperly and unskillfully done. It is undoubtedly true, as stated by me in a recent paper, "that errors in judgment would occur, and disrepute be brought upon a very valuable operation by its unwise, unskillful and too frequent repetition." There is no doubt but this operation is resorted to more frequently than is required, but this occurs in the history of all new operations. Sufficient opposition is thereby elicited to finally confine it within its "proper limitations." Emmet has stated that he now performs it only once where he formerly did it ten times. He finds that by curing an existing endometritis and cellulitis the tissues which had rolled out and produced an ectropion, giving the appearance of a considerable laceration, are curable by appropriate treatment and an operation becomes unnecessary.

I think the feeling has prevailed among the people, and to some extent among physicians, that the cervix is so liable to re-laceration in subsequent labors that the operation should therefore not be performed until after the menopause. In reference to this subject, I would venture to express the belief that the cervix is just as liable to laceration after the operation as before, and no more. The frequency of cervical laceration has been placed as high as one in every six women confined, by so excellent an observer as Goodell. Emmet places the percentage at 33; Maudslayi, 23; Pallen, 45. The line of union is so perfect in successful cases, that Hunter states (*American Journ. Obstet.*, Jan., 1883, p. 69) that a few months after restoring a lacerated cervix, he could not determine by the touch, where the injury had been. The tissues seemed to be no harder than the surrounding tissue. I can confirm this statement after many examinations.

In the same discussion, Dr. Skene stated "that he had seen several cases of successful delivery without further injury after operations for laceration of the cervix."

In the *New York Medical Journal*, Vol. xxxviii, 1883, p. 48, a discussion in the Philadelphia Obstetrical Society is recorded, in which twenty cases of pregnancy following operations by Drs. Baer, Gittings, Goodell, Montgomery and others. In nearly all the cases a normal labor occurred, unaccompanied by re-laceration.

There are some facts to prove that this is not so universally safe an operation as many have supposed it to be. While my question in regard to the occurrence of pelvic cellulitis and peritonitis was answered by eight correspondents in the negative, four report eight cases, and six say they have had "several" or "a few" cases each, and eight do not reply to the question at all.

Drs. Emmet, Scott of San Francisco, and others, say that where it has occurred, it has generally been traceable to some error in the operation.

I think I have proved, from the best of testimony, that Emmet's operation does not cause sterility when properly performed, that re-laceration is no more prone to occur after the operation than before, and that severe or protracted labors do not follow as a consequence; that it is not without its dangers, ten deaths occurring in a little over 8,000 cases, besides a number of instances of hæmorrhage and cellulitis not fatal. I believe the cervix is operated on in many cases which might have been cured by proper treatment; and I believe also that the operation, when properly performed and clearly indicated, is one of the greatest improvements of the age.

LACERATION OF THE CERVIX UTERI DURING LABOR.

By JOHN FERGUSON, B.A., M.B. Univ. Tor.; L.R.C.P. Edin.; L.F.P.S. Glasgow, Demonstrator of Anatomy in the Toronto School of Medicine, Toronto, Canada.

This important question has received a good share of my time for several years.

In the first place, I shall glance into the comparative side of the question. These observations were made on ewes, bitches, cats, cows, mares, and sows.

Thus far two hundred and eighty-seven animals have been examined, yielding seven cases in which there was more or less damage done to the cervix during the act of parturition. In none of these seven did there appear to be any evil results from the lacerations such as they were, judging from the condition of the cervical tissue.

Now, turning to the human female, much real information can be gained by studying examples of cervical laceration as they occur under different circumstances. The first group I shall refer to is that in which laceration took place, and in which the labor was hurried by medicinal agents. In this group I can place altogether twelve primiparous women. Three were attended by physicians, and nine by midwives. From the statements made by these twelve, there is no doubt that ergot had been given to hasten labor in the early stage. Now, of these twelve, there is unmistakable evidence of laceration of the cervix in ten of them. This is surely a fearfully large percentage? Had these women been left alone, with no other help than that required to cut the cord and take the child out of the way, things would have gone much better with them.

The next group contains twenty-one cases. They are all examples of forceps-delivery, and are also primiparæ.

Of these there were seventeen examples of well-marked laceration. This is also a pretty high percentage. Now, it would be unfair to say that this was entirely due to the mere fact that the forceps were used; much of the real cause, no doubt, could be found in the conditions demanding their use. In my own four cases of primiparæ, followed by lacerations, the forceps were a necessity. Still, it cannot be denied that their use does tend to the production of this misfortune; and every caution should therefore be used always in their employment.

The next group of persons, twenty-nine in number, had been confined only once. In these there was no evidence that any urging drug had been used, nor had the forceps been employed, in the cases that had been attended by other physicians, eleven in all. In the remaining eighteen, delivered by me, the progress of the labors was left entirely to nature. In the eleven cases attended by others, there was no laceration worthy of the name; while in the eighteen attended by me, there was one case of slight laceration, which, however, gave rise to no disturbance, and was left, as a consequence, untreated.

Thus it will be seen that of twelve cases urged on by ergot, there were ten examples of laceration; and of twenty cases assisted by the forceps, there were seventeen branded with this mark. On the other hand, twenty-nine labors left to nature, gave only one lacerated cervix.

When we take into account the statements now made regarding the lower animals and the human female, it seems to me no difficult matter to draw the inference that the attendant should learn to refrain from useless interference

with his midwifery cases; and, when he must interfere, he should be able to take his bearings well, and then proceed accordingly. It would be hard to conceive of any more dangerous belief than that the forceps must always be applied simply to save our time, or an hour or two of what may be called natural suffering on the part of our patient, needed to complete a normal labor. If the physician be so crowded with engagements that he cannot spare the requisite time, then he is in duty bound to humanity to relinquish some of his work. If he has not the heart and sympathy in his calling which will induce him to give to his patients all the advantages that medical science puts in his hands, then the sooner he abandons the profession of the healing art, the better will it be for his fellow-beings, and ultimately for his own conscience.

THE LESSER DEGREES OF CHRONIC PELVIC INFLAMMATION IN WOMEN.

By FRANK P. FOSTER, M.D., Asst. Surg. Woman's Hospital, N. Y.

From the *N. Y. Med. Jour.*, July 5, 1884.—By the expression "lesser degrees" I mean to imply those forms of the affection in which no history of an acute beginning can be elicited, or any sign that there has ever been a tendency to suppuration, and in which there is no bulky exudate. The cases themselves are by no means of trifling significance; they are exceedingly common in occurrence, they are apt to be followed by consequences which produce serious impairment of the health, and they constitute an important element to be considered when we have to decide upon measures of treatment.

We all know the frequency with which evidences of pleurisy are found in the bodies of persons who, during life, never suspected themselves to be the subjects of any thoracic trouble whatever. Perhaps it would be too strong a statement to say that like affections of the pelvic peritoneum, or of the cellular tissue between its folds, were equally common, or that they so often passed unrecognized. I think, however, that this much may be said: that they are by far the most frequent of all the diseases peculiar to women, occupying the position in gynecology that the various forms of eczema hold in dermatology.

Assuming, as you will allow me to assume for the time being, that I have truthfully stated the frequency of the affections under consideration, it becomes a matter of importance to inquire into the causes of this frequency. The periodical turgescence of the ovaries and the uterus inseparable from the menstrual function suggests itself at the outset, as, indeed, it has suggested itself from time immemorial, as an ætiological factor. The idea is obvious and plausible, and it cannot be denied that obviousness and plausibility often give the clew to facts. On the other hand, menstruation is a natural process, and, while it is true that in many instances our organs perform their functions at the risk of injury to their integrity, if we allow a preponderating significance to the monthly pelvic congestion of menstruation, we must admit that that function is exceptionally prone to be followed by damage to the parts concerned—an admission which, to be of any great force, ought to be sustained by more exact data than those now at our command. But perhaps the present state of our knowledge warrants some such statement as this: that menstrual congestion is probably insufficient in itself to initiate a morbid process, although abundantly capable, by its repeated occurrence, of stimulating and developing diseased conditions which, but for some perturbation of the sort, would generally tend to disappear spontaneously. In other words, and limiting the statement to normal menstruation—to the element of congestion—the performance of that function is not a cause of disease, strictly speaking.

Abnormalities of gestation and parturition, being in themselves pathological, we can more readily admit to be capable of giving rise to positive disease of the pelvic structures.

Leaving the matter of ætiology, the pathogenetic importance of slight forms of pelvic inflammation is to be considered. It is my decided conviction

tion that this feature of these affections is underrated by many gynecological writers. Indeed, with the exception of Dr. Emmet in this country and B. S. Schultze in Germany, I know of no author who gives it what I consider due prominence. Chapter after chapter is devoted to displacements of the uterus, to flexions of that organ, to dysmenorrhœa, to endometritis, and even to sterility, while the affections now under consideration—in my opinion, the most common beginning of them all—are treated as of minor consequence.

I will only call your attention to the capabilities of contracting layers and small masses of exudate in distorting the uterus, in binding it in abnormal attitudes and situations, and in preventing its expansion under the engorgement of menstruation; in producing stenosis of the Fallopian tubes; in crippling the ovary; in destroying the free expansion and contraction of the bladder; and in interfering with the return of the venous blood from all these organs. This one element seems to me ample to account for the great majority of cases of dysmenorrhœa, sterility, ovarian pain, profuse menstruation, and leucorrhœa that make up so large a share of the every-day practice of gynecology.

If the foregoing views are of any value, they should not fail to exert a far-reaching influence upon the treatment of many of the diseases of the sexual apparatus not generally suspected to be connected with extra-uterine inflammation and its products. Excluding the neoplasms that threaten life, I should say that, whatever abnormal conditions may be found affecting the organs in question, so long as chronic extra-uterine inflammation co-exists, it should be looked upon as the most important feature in the case, and as the one to which treatment ought chiefly to be directed. So far as my own experience goes, I have met with far more success by following this course than by seeking to remedy the more obvious derangements, whether versions, flexions, hæmorrhages, discharges, stenoses, or any of the other conditions that are usually the direct source of complaint. If I stood altogether alone in these views, I should hesitate to put them forward as of any importance, but I may be permitted to say that for several years past Dr. Emmet has virtually given up intra-uterine medication in the treatment of endometritis; operations designed to enlarge and straighten the uterine canal are falling into disuse; the flexion theory of dysmenorrhœa is drawing to its downfall; and it is beginning to be felt that the curette is not all-powerful.

But it is not alone the useless from which these considerations should warn us to desist; some of the therapeutic measures that have been much resorted to are injurious, especially when there is a tendency for the slumbering inflammation of the serous and cellular structures of the pelvis to break out into an acute affection. I will mention only that one of them which is probably considered by many the one least likely to cause trouble—the operation of replacing the uterus by means of an instrument. I doubt if there are many who will agree with me in the statement that this procedure is unwarrantable under all circumstances, but that is my firm conviction.

THE SURGICAL TREATMENT OF UTERINE DISEASE.

Dr. W. H. Byford, of Chicago, in an excellent paper read before the American Medical Association, recently, draws attention to the great care required in the treatment of uterine diseases if we would avoid the dangerous consequences that not unfrequently follow examinations and operations. The following conclusions to his paper are worthy of careful study:

1. The sometimes terrible effects of examinations or operations in the pelvis do not often, if ever, take place when there is not a perceptible predisposing inflammation.
2. The inflammation may be so slight as to be easily overlooked.
3. It may be an original condition; the sequence of an acute attack long gone by, or it may be the product of some immediately previous examination or operation, the effects of which have not subsided.
4. To avoid the dangers of acute inflammation we should, in making a first examination for pelvic disease, conduct it in such a way as not to give the

patient much pain, and, when she complains of much suffering, desist, at the sacrifice of completeness of diagnosis.

5. Complaints of much tenderness to the touch, or the use of instruments, especially in parous women, is sufficiently diagnostic of inflammation upon which to base treatment for that condition.

6. If, with such tenderness, a thorough examination or an operation is imperative, it should be done under profound anæsthesia. There is no question, in my mind, that much less danger of ill effects is incurred in making examinations or operations on susceptible subjects, under the free use of anæsthetics.

7. Examinations or operations should not be repeated until the effects of the first have entirely passed off.

8. As chronic parametritis is a frequent complication of most of the morbid conditions of the uterus, it should be always suspected, and its diagnosis be carefully considered in all cases of metritis.

9. When chronic parametritis is present, it should be the chief, if not the exclusive, object of treatment until removed.

10. It is not safe to use the sound, sponge-treatment, or intra-uterine stem, when there is perimetritic inflammation.

11. It is especially dangerous to replace a displaced uterus, when it is bound down by inflammatory adhesions, by any means which will overcome its fixedness by force.

12. The use of pessaries or supports of any kind, which find their lodgment in the pelvis, is generally followed by disastrous consequences when there is even slight primitive inflammation.

13. All local treatment of the uterus must be conducted with the greatest care in all cases where this complication is present.—*Canada Med. Record.*

MICTURITION IN WOMEN.

By Le Docteur A. AUVRAY

From a translation for the *New York Medical Abstract*.—We know that in women a large majority of the disorders we observe in the urinary bladder are due to the influence of some organ in its neighborhood, and particularly to that of the uterus. These troubles may arise during menstruation, pregnancy or the sequelæ of labor.

A. *During Menstruation*.—The menstrual flux which occurs in various organs of the pelvis brings about a vesical congestion more or less intense, but which we do not find to reach to inflammation, without some other cause than the preceding is adjoined. Under the influence of this congestion, *tenesmus* is produced and sometimes dysuria. A pathological state is not yet really established, but the condition of the bladder is no longer perfectly normal.

B. *During Pregnancy*.—At this time the bladder may become the seat of inflammatory or simply mechanical troubles. Cystitis may develop at any of the periods of pregnancy. A large number of observations show that it is by no means rare at the very commencement of pregnancy or under the simple influence of a gravid uterus. At the end of gestation its appearance is more frequent. The mechanical troubles belong ordinarily to a retroflexion or retroversion of the gravid uterus. The disorders observed in this case may be but temporary in their nature; in other circumstances there takes place—rarely however—a rupture of the bladder or a sphacelus of its mucous membrane.

C. *During the Sequelæ of Labor*.—Of the two categories of disorders we find; those which are mechanical, due to displacements of the uterus and which are observed in women who arise too soon after childbirth. The other disorders are of an inflammatory nature; cystitis perhaps results from a traumatism, which is also produced by lying-in, by cold; or through the introduction of a catheter charged with infectious germs.

D. *The Uterus in a Pathological State*, often becomes the source of disorders arising from the bladder. Uterine displacements form one of the most frequent causes, whether there be deviation or prolapsus uteri. Uterine can-

cer, during the course of propagation to the bladder, may develop cystitis. Fibromas trench upon the bladder less by their volume than by their seat. When they encroach upon the place reserved for the bladder, we may easily see how they will interfere with micturition. This influence will be particularly felt as the time for menstruation approaches, on account of the congestion and the augmentation of volume that the afflux of blood causes in the tumor. Fibromas may still further act upon micturition by the uterine displacement which they cause. Metritis and various other pelvic tumors will, according to location, have an effect upon micturition. The important point, therapeutically, in these cases, is that the physician shall understand the precise nature of the causes of these troubles of micturition in women.

REMARKS ON GYNÆCOLOGICAL THERAPEUTICS.

By J. H. EMERSON, M.D., Physician for Diseases of Women to the Out-Patient Department of the New York Hospital.

From the *N. Y. Med. Jour.*, Aug. 9, 1884.—I propose to give briefly the principal therapeutic agencies that I employ in my clinique, stating what I conceive to be the indications for their use and the objects aimed at, and, so far as I can, the results believed to have been attained.

I use pessaries, chiefly the Albert Smith, the Thomas bulb, and the elastic ring; these for backward displacements; and as such are in my experience much more frequent than anteversions and antelexions, I have much less occasion to employ instruments for the relief of the latter. For cases of prolapse with a heavy uterus and a damaged perineum, I believe that such instruments only as have an external support would be of any value. Simple abdominal belts or supporters will often obviate the need of pessaries, especially in anterior displacements.

Cutting operations of any importance, and even curetting, are inadmissible in patients who have to return on foot to their homes immediately after treatment, and therefore are not referred to at this time.

In regard to the hot douche, it is ordered in almost all cases as a matter of routine, and I find that in the class of patients I see at this institution there are few who cannot afford a bed-pan. I therefore give explicit directions to them to use the syringe in connection with this article and in the recumbent position, using two or three quarts of water, as hot as it can be borne. I always try to make sure that the nozzle does not have a terminal orifice, and, in cases of patulous os uteri, or where complaint is made of pain after using the douche, I advise the bent and partly flexible nozzle devised by Dr. F. P. Foster.

Ergot is used in gynæcological practice chiefly with three objects: one is to effect a reduction in the size of the uterus by promoting the contraction of its muscular elements and reducing the caliber of its blood-vessels, another is to check uterine hæmorrhage, and a third is in the treatment of interstitial and submucous fibroids. The cases in which I have used it have been mainly those of subinvolution, often associated with a greater or less degree of laceration of the cervix. In combination with the ergot, the local treatment has usually aimed at an unloading of the vessels of the uterus by the action of glycerin tampons and stimulating the blood-vessels to contract by the hot douche. I can hardly say that I have proof of the value of ergot given simply to arrest uterine hæmorrhage, although there are many cases in which I should feel that I was not right in withholding it. Still, in these same cases other measures, such as the hot douche and swabbing the uterine canal with tincture of iodine, are likewise resorted to—the effects of which are more palpable—so that one remains uncertain what the share of the ergot has been when the flow is checked.

There are cases of prolapsus uteri in the third degree, notably among washerwomen, or others leading laborious lives, who have to stand much and lift heavy weights. Many such have doubtless had their origin in a laceration of the perineum, complicated probably with the subinvolved uterus, and when they apply for treatment can not afford the time required for operation, even though, in the case of some, nothing short of a closing of the

vaginal orifice would secure them from a recurrence of the prolapse. Such patients have been benefited by the frequent introduction of cotton tampons saturated with the glycerite of tannin, and by a douche of cold water, to which I have sometimes added a few drops of the persulphate or perchloride of iron.

In that very common group of symptoms, viz., backache, constipation, leucorrhœa, "general debility," and moderate pelvic inflammation, I derive the most satisfactory results from the well-known combination of the sulphates of iron and magnesium with sulphuric acid, and perhaps a bitter infusion given largely diluted. This is, of course, supplemented by the hot douche and by glycerin tampons.

It is almost needless to say that a very large number of cases receive hardly any other treatment than the hot douche, local applications of Churchill's tincture of iodine, supplemented by the glycerin tampon, and the exhibition of cathartics, preferably the salines, or those containing senna. I commonly use the mixture of sulphates mentioned just now, the compound licorice powder, or an infusion of senna, quassia, anise, and bitartrate of potassium, which latter serves a good purpose in relieving the flatulent dyspepsia which is so frequent an accompaniment of these affections. A measure on which I place no little reliance when the cervix is found engorged, firm, and dark, is scarification, repeated every few days; and under its use, even though the amount of blood drawn be but a few drachms, I have seen cervical catarrh diminish, erosions heal, and the vaginal portion of the uterus recover its natural consistence and tint.

I have not learned how to use either *cannabis indica* or *hamamelis* for the relief of uterine hæmorrhage, although I have made some trial of both; but gallic acid I find efficient for this purpose, and usually give it in doses of ten or twenty grains, dissolved in alcohol, to be taken in a wineglass of water.

Ovaries, whether displaced or not, are often sensitive and painful enough for that symptom to demand special attention, and I have employed various sedatives, both by themselves and more commonly in connection with derivatives and counter-irritants.

Undoubted and prompt relief has been seen to follow a blister, and more gradually the painting of tincture of iodine over the painful region of the groin. It has appeared to me that something has been gained by the persistent administration of bromides and belladonna.

It is easy to satisfy one's self of the deodorizing, and presumably of the antiseptic, properties of the eucalyptus, even if it does not now maintain its reputation as an anodyne.

Here I may refer to two articles which have done good service in relieving the pain of dysmenorrhœa, viz.: small doses of chloroform given by the mouth, according to an old formula, with camphor and peppermint water, and, secondly, chloral given as an enema.

As antipruritics, and to dull the sensibility of the orifice of the vagina in the slighter degree of vaginismus, nothing has been so satisfactory as carbolic acid penciled on, or a 1-to-1,000 solution of bichloride of mercury. This latter salt, in a weaker solution, has proved most serviceable also in some cases of obstinate vaginal leucorrhœa, presumably of gonorrhœal origin.

Finally, I may mention two drugs which, in my experience, have not deserved the reputation claimed for them by some recent writers. These are *viburnum*, as a uterine sedative, and *apiol*, as an emmenagogue.

STUDIES OF THE UTERINE MUCOUS MEMBRANE.

Dr. F. H. DAVENPORT, of Boston, in a report on the progress in Gynecology published in the *Boston Med. and Surg. Jour.*, Aug. 14, 1884, quotes from an article by Dr. Düvelius who has studied three questions in connection with curetting the uterus:—(1) The possibility of making a correct diagnosis from the portions of uterine mucous membrane removed by the curette; (2) the possibility of so completely destroying the diseased mucous membrane by the curette that one can be safe from a return of the disease; (3) the possibility of a normal pregnancy occurring after this procedure.

To determine the first point the curette was used on twenty-two uteri from women who had died of other affections than uterine. This was done before post-mortem changes could have begun, and as carefully as if on the living subject. The uteri were then examined, and with exception of the first three cases, in which the curetting was not so carefully done, the muscular layer was laid bare over the whole extent of the uterine cavity. Enough could be obtained to make a diagnosis easy. In nine cases of examination during life the diagnosis was made with the microscope, and confirmed by an examination of the uterus, which was in each case removed. The author considers the first point as sufficiently proven.

As regards the return of the disease, while its possibility cannot of course be denied, yet the writer considers that energetic curetting, especially if followed by appropriate treatment at the time by caustics, etc., very much diminishes the probability.

Two points throw light upon the third question, that of possible conception. First, examination of uteri which have been the subject of thorough curetting, and have subsequently been removed, show microscopically a complete regeneration of the mucous membrane and an absence of cicatrices; *a priori*, therefore, we would expect the possibility of conception. Second, numerous examples of its occurring in persons who have been the subject of this operative procedure are on record. In the five years from 1879 to 1883 the reports of sixty such cases were found by the author.

DISEASES OF CHILDREN.

THE SIGNIFICANCE OF BLOODY DISCHARGES FROM THE BOWELS IN YOUNG CHILDREN.

By FRANK WOODBURY, M.D., of Philadelphia.

From the *Jour. Amer. Med. Ass'n*, Aug. 16, 1884.—The occurrence of blood in the alvine discharges of a young child, whether in amount large enough to constitute actual intestinal hæmorrhage, or existing only as a few small clots or streaks of blood, is a symptom which naturally excites alarm in the minds of those having it in charge, and usually is the signal for prompt appeal for medical aid. Whether rightfully or not, in an individual case, it may be considered as the rule that this accident in childhood is of much more serious import than in adult life, although in some instances the pathological conditions are identical.

Like hæmatemesis, bleeding from the intestines is merely symptomatic; its causes vary greatly in site, nature and gravity. I have preferred to employ the term "bloody discharge," as being more comprehensive than either *melæna* or intestinal hæmorrhage.

Blood may also appear in the discharges, from a lesion existing in the stomach, œsophagus, or upper air passages—or even from a source external to the patient, being taken with the food, as when an infant nurses from a cracked and bleeding nipple—but for our present consideration, it will be sufficient to limit the consideration to lesions below the pylorus.

First: What is the site of the hæmorrhage? and secondly: What is its cause?

Venous hemorrhoids may occur in young children. These may be examples of *nævus*, or may come under the class of internal hemorrhoids.

Fissure of the rectum is a rare cause of bloody discharges in children.

Prolapse of the rectum is less frequently accompanied by bleeding in children than in adults, but it is sufficiently common to warrant consideration.

Polypus of the rectum is more frequent in children than is generally supposed, and is usually announced by recurrent attacks of bleeding. When found, the polypus may be broken off by the finger nail without inducing

hæmorrhage. Its usual site is inside the internal sphincter, from two to six inches within the bowel. The pedicle may be several inches in length. If vascular in its appearance, "the safest plan is to tie it and let it slough off."

Foreign bodies may cause ulceration and hæmorrhage.

Traumatism. Bearing in mind the facility with which fatal hæmorrhage might be induced by wounds of the intestine and adjoining structures, it might be the means employed for criminal purposes.

It may be proper to say here that a hæmorrhage may be sufficiently profuse to cause death, may occur without any discharge of blood externally. J. L. Smith refers to a case (Bidnar) of a boy 11 days of age, in which the skin rapidly became yellow and cool, respiration scarcely perceptible. He died on the twentieth day of exhaustion, and it was found that the symptoms were due to a concealed intestinal hæmorrhage.

In *dysentery and entero-colitis* of sufficient severity, blood will often appear in small quantities in the stools during the height of the inflammation; where it occurs in larger quantities it indicates ulceration, and in chronic colitis the discharges may consist of pure blood.

Intestinal worms have been mentioned as causing the appearance of traces of blood in the discharges, mixed with mucus.

Intussusception of the bowel, either by descent of part of the ileum through the ileo cæcal valve, or elsewhere in the course of the bowel, is very commonly accompanied by bleeding.

Ulceration of the small intestine may be due to sloughing of necrosed follicles in the course of simple catarrhal inflammation, or it may be tubercular in its origin.

Congestion of the mucous membrane, with or without accompanying catarrhal inflammation, is quite common in young infants, and occasionally causes bloody discharges.

There is a class of cases in which the pathological condition is not well understood. It may be connected with some disorder of the blood. Here may be appropriately considered those peculiar cases of hæmorrhage from the bowel coming on in the first few days of life, generally from the first to the sixth day, which are known as *melæna vera* or *melæna neonatorum*.

Cases of enterorrhagia attributable to *hæmophilia* have been published. In such cases the peculiarity is generally known to exist in some other member of the family.

Some cases of *melæna neonatorum* seem to be really due to *purpura hæmorrhagica*.

Blood sometimes occurs in the discharges during the specific fevers from congestion or ulceration of the mucous membrane. Typhoid fever sometimes occurs within the first year of life, but is rare until after the expiration of the second year, being more frequent between the ages of eight and eleven years.

Dr. J. Lewis Smith said the pathological state was different in the different diseases. The most frequent and common causes (when not mixed with mucus) were purpura hæmorrhagica and intussusception. The latter is an important matter. There is none more important in diagnosis.

ON "SUMMER COMPLAINT" OF CHILDREN.

By JOHN M. KEATING, M.D., Visiting Obstetrician to the Philadelphia Hospital.

From the *Philadelphia Med. Times*, July 26, 1884.—We have two forms of disease of this character to study, the first dependent upon a distinct poisonous principle, possibly a germ, engendered or enlivened by foul air, sewage, and dampness; it comes on precipitately, sometimes with a suddenness which is almost appalling, and resembles in many of its symptoms Asiatic cholera: this may be called true *cholera infantum*.

They occur independently of hot weather, but are usually very much more frequent during prolonged periods of elevated temperature, when night and day temperatures show scarcely any difference. They are especially found in large cities.

Some years ago I tested the stools—the thin, serous stools—of children affected, and found them invariably highly *alkaline*.

Now, how shall we treat such cases? It is obvious that the first indication for treatment is to check the drain which is exhausting the patient,—check the flow of serum which is continuously flowing into the intestinal canal; to stimulate the nervous system and permit it to regain the control which the irritating poison seems to have deprived it of; to supply food of such a character and in such a quantity that it will be absorbed.

We have to stimulate the circulation, to increase the warmth of the surface, and remove the child as soon as possible from the depressing influence or the absolute poison which was the cause of the attack.

The course that I usually follow is to place the child in a warm-water-and-mustard bath, or apply mustard or aromatic poultices to the abdomen, with warmth and friction to the surface, either with some stimulating lotion or flannels wrung out of warm water; the bathing is by far the best. Give the child, in small quantities frequently repeated, a little gum-arabic water, or toast water, cold, containing brandy. In administering brandy, say for a child one year old, it is well to order a teaspoonful of brandy to a table-spoonful of toast water, and give of this a teaspoonful every half hour until you notice a decided effect.

The most satisfactory medicinal treatment in these cases is decidedly the acid one, giving a mixture of morphia and aromatic sulphuric acid, as follows: \mathcal{R} Morphine sulph., gr. ss; acid. sulph. aromat., gtt. xxxii; elixir Curaçoe, f 3 iv; mucil. acacie et aquæ, ss, q. s. ad f 3 iv. *M. Sig.*—For a child aged one year, a teaspoonful every hour.

Creasote may be given in an emulsion, gr. $\frac{1}{8}$ every hour. You may, if you desire, substitute for the creasote any of the following drugs: salicylic acid, salicylate of soda or bismuth, gr. $\frac{1}{4}$ every hour; carbolic acid, benzoate of soda, gr. $\frac{1}{4}$ every hour. Resorcin, gr. $\frac{1}{8}$, has been recently much lauded in this condition.

If the vomiting be a very constant and severe symptom in the beginning, you may give small doses of calomel with sugar of milk; especially is this the case if the child has a coated tongue, using the brandy as mentioned to keep up the nourishment.

If the diarrhœa be the most prominent symptom and the passages show an accumulation of curds, it is well to give a teaspoonful of castor oil before using the astringent mixture, in order to remove all irritation from the bowels.

Many recommend, when the diarrhœa is severe and very frequent, the use of acetate of lead, beginning in small doses, gr. $\frac{1}{4}$ every hour, or nitrate of silver in doses of one-fifteenth to one-twentieth grain, in emulsion.

The mustard application, consisting of a poultice of half mustard and flour placed over the abdomen, is, in my opinion, a very important matter in the treatment of this disease.

As regards food, it is necessary to proceed with great caution. This form of disease is more apt, of course, to attack hand-fed children, though babies which are nursed exclusively are not entirely exempt. Where the child is wet-nursed, it would be far better for you to regulate its diet in such a way that it will receive a small quantity of milk at frequent intervals.

In these cases, when the milk is vomited unaltered and passes through the bowel in the same condition as taken, it is absolutely useless—in fact, harmful—to feed it in this way. The child may now be fed from the spoon with a small quantity of milk which has been drawn from the breast. Should the child be hand-fed, it can be given either wine-whey, *peptonized* milk, or cow's milk diluted to one-half or one-quarter with lime-water.

When such cases recover, their progress is slow if they are kept in their accustomed surroundings. You should be as earnest in your directions for change of air as you are for the regulation of the diet and medicinal treatment, which consists in preparations of cinchona, minute and repeated doses of strychnia, and iron, if the stomach will tolerate it. The wine of pepsin, notwithstanding my authorities do not advise it, is invaluable in many cases.

The other form, to which I referred at the beginning of my remarks, may be termed *entero-colitis*, though it may be so mild as to affect only the mucous membrane of the stomach and the upper part of the small intestine; on the other hand, it may extend throughout the entire tract, involving the colon. The term *catarrh* may be applied to the milder type; but severer ones are known as *entero-colitis*.

We shall limit ourselves to the severer form, *entero-colitis*, in the present description. It is usually due to irritation—irritation of the intestinal tract by mechanical means, in most cases by indigestible or undigested food. Again, it may be due to an extension of a stomatitis accompanying teething. Cold is another exciting cause. We have also an exciting cause in the character of the child's diet.

The odor of the passages, as a rule, is extremely offensive.

Pain is dependent on the amount of inflammation: there may simply be tenderness, or it may amount to griping pains—colic. There may be tenesmus, if the inflammation extends to the rectum; and children that are old enough complain of pain in the region of the umbilicus.

The child is very fretful. The skin of the abdomen is hot and dry, though the extremities may be cool. There is great liability to prostration in such cases, especially if the attack is sudden, if the degree of inflammation seems extensive, and if diarrhoea appears early and is severe. Vomiting is not a symptom of the disease unless there is associated with it a gastritis.

In testing the stools of children with summer complaint, or *entero-colitis*, with litmus, I have found the reaction usually acid, at times very markedly so, and I am satisfied that this forms an indication for treatment. You have not the collapse in this disease that you have in cholera infantum at the onset, but death may occur from inanition. This form occurs at all ages, at all times of the year, but especially in midsummer, and in the debilitated children in large cities and those who are hand-fed on improper food.

Your first indication is to relieve the engorged bowel, to carry off the irritating matters therein contained, to re-establish those functions upon which excretion depends, and during this time to feed the child upon the blandest of food, to keep up peripheral circulation, and to allay the irritability of the nervous system. Now, personally, I know nothing that will have so good an effect in these cases as small and frequently-repeated doses of calomel and bicarbonate of soda: \mathcal{R} Hydrarg. chlor. mit., gr. i; sodii bicarb., gr. xii; gum acaciæ, gr. vi; M. et div. in chart. no. vi. Sig.—One every hour until six are taken.

Meanwhile, the child is to have nothing but a little cracked ice to allay fever and quench thirst.

If you so desire, "gray powder" may be substituted for the calomel, in doses of one-fourth to one-half grain. Should the child be seen early in the attack and the stools show much accumulated undigested material, the child being sufficiently strong previous to the attack, I would give after the last calomel powder a teaspoonful of castor oil, either alone with peppermint-water, or a teaspoonful of castor oil and a half a teaspoonful of aromatic syrup of rhubarb. But if, after you have administered the calomel, you fear that the child is too weak to stand the additional laxative, the bowels being very loose and watery and the depression seeming to increase, you may give subnitrate or subcarbonate of bismuth, with or without small doses of Dover's powder, or you may use chalk-mixture with great caution, bearing in mind that the sudden checking of a diarrhoea which is caused by an irritant still retained is apt to do a great deal of harm. An excellent prescription, recommended by Dr. Allechin, is as follows: \mathcal{R} Liq. bismuth., \mathfrak{m} i-iii; spts. ammon. aromat., \mathfrak{m} ii-v; tinct. cardam. comp., \mathfrak{m} ii-v; aquæ, f 3 i-ii. M. Sig.—According to age.

The use of counter-irritation, of course, must not be forgotten. Keep the patient in a moderate temperature, neither too warm nor too cold, and supply the child freely with water.

As regards stimulants, you must be very cautious; but debility requires stimulation if there is much diarrhoea or weakness. Brandy, of course, is

preferable to any other form. Port wine is useful in subacute cases. When it is necessary for you to incorporate your stimulant with nourishment, the use of sherry and water or sherry and albumen water or wine-why may be preferred. I would advise you not to give milk until the secretions are well acting: feed the child on peptonized gruel, beef jelly, toast water, mutton broth, or chicken tea.

Change of air is specially useful in cases of this character, but protection from the sudden influences of cold is all important.

Should you feel the necessity of ordering your patient away from home, you should caution the mother against exposing the delicate child to the sudden influences of cold, of dampness, and of chilly winds, and instruct her to keep the infant well wrapped, sheltered and protected from the night air by requiring the sleeping-room to be heated sufficiently to dry the dampness.

In regard to the tonic medicinal treatment of these cases, probably the most valuable agent is arsenic, from one-half to one drop of Fowler's solution in water three times a day. You will often be obliged to give small doses of rhubarb or aromatic preparations of senna, probably with nux vomica or belladonna, to establish the normal peristaltic action of the intestines, which have become enfeebled by the inflammatory processes.

INDIGESTION AND INTESTINAL CATARRH IN INFANTS.

By E. H. BARTLEY, M. D., Assistant to the Chair of Diseases of Children, Long Island Coll. Hosp.

From the *N. Y. Med. Jour.*, July 19, 1884:—In the majority of the cases the seat of the trouble is in the small intestines.

In order to treat successfully the ordinary cases of diarrhœa and indigestion in infants, then, we must inquire into the ætiology, the state of the nervous system, the quality, quantity, and method of giving the food, whether the trouble as it now exists is due to failure of the stomach to digest, or an interference with intestinal digestion by acid fermentations, to miasms, or air polluted with decomposing garbage, or the result of the combined effect of impure air, excessive heat, and improper food. The treatment must be directed to the *cause* and not entirely to the *result*. The treatment is always of two kinds—viz.: hygienic and medicinal. In many cases of indigestion, with not too severe a diarrhœa, proper dietetic and hygienic treatment is all that is necessary, and even some of the severer cases, as Biedert has shown, may be successfully treated in this way.

The following are a few brief statements which may be found useful in the feeding of infants: (1.) The best food for young infants is average mother's milk. (2.) The most available substitute for mother's milk is cow's milk, so diluted and modified as to suit the digestive powers of the infant. (3.) Chemical analysis of the food alone is not always a safe guide as to the digestibility of any given artificial food—i. e., it is not enough that the analysis shall show the proper proportion of albuminoids, fats, sugar, salts, etc. The question of the easy digestibility of these ingredients must also be considered. (4.) Over-feeding is a very harmful practice, and must be prevented. (5.) The hygienic surroundings and the development of the infant will in a measure determine the character of its food. A backward, undersized, rachitic or tubercular child in a tenement-house will require more care in feeding than a healthy child in an airy dwelling. This is a fact often overlooked by physicians as well as by mothers. (6.) Greater care must be exercised in the feeding of infants during the hot than in the cool months, and foods containing much starch should be avoided.

How shall we get rid of the green, curdy-looking stools? 1. Prevent hard curds by diluting the milk with some bland, unirritating or mucilaginous substance, such as barley-water, or, much better, gum arabic, albumen, or gelatin-water. Barley-water has not been so successful in my hand as I could wish, although I have seen it do good in some cases.

My direction to the mother is usually to make the solution of gum arabic or gelatin by adding a teaspoonful of the clear gum to a teacupful of warm water, and then to add this to the milk in the desired proportion, say 1 to 2 or 3 of milk. I have seen two patients do well and recover in the heat of July by simply letting them suck sticks of gum made by the confectioner of pure gum arabic. If the child is at the breast, I give the above-mentioned diluent, immediately before nursing, in three or four teaspoonful doses.

There is one point which I would urge as very important in all cases of indigestion in infants where we find great greediness for food: that they be allowed to feed only once in about three or four hours. A little cool water may be given in the intervals if the child seems thirsty. This greediness in children is always pathological, and must not be indulged. In cases of entero-colitis with free watery discharges I have learned that great benefit will be derived by freely administering cool water. I have also found it an excellent plan to exclude milk from the diet for a day or two in those sudden choleraic cases with tendency to collapse, and to give raw meat-juice with a little salt and brandy instead.

The meat-juice may be given very freely, and it is seldom rejected. After the expiration of about forty-eight hours, and after recovery has begun, there is nothing better than milk partly or wholly pancreatized. In the main I prefer good fresh milk to condensed milk, although this is a matter of experience; some patients will do better on condensed milk, while others will do better on diluted fresh milk. The more I see of digestive troubles in hand-fed babies the more I am convinced that the proper feeding of any particular infant is a matter of experiment and not one of rule.

Medicinal Treatment.—Astringents in the early stages of gastro-intestinal catarrhs are uncalled for, and generally injurious. Opium before the stage of inflammation I rarely give, except an occasional dose of paregoric to secure rest.

In *irritative diarrhoea* the following paste will be found very useful: *R.* Ol. ricini, f 3 iv; bismuth. subnitratis, 3 ij; magnes. carbonatis, 3 j; Sacchari, 3 ij; ol. anisi vel ol. menth. pip., ℥vj. *M.* Sig. 3 j for a child of six months to one year.

Or we may use: *R.* Vin. pepsini, f 3 jss.; bismuth. subnit., 3 ij; glycerini, 3 iv. *M.* Sig. 3 j at a dose.

When inflammatory diarrhoea has begun, it is well to give a dose of castor-oil to begin with, unless it is certain that no irritating substances or undigested food remain in the canal. This is then to be followed by the usual remedies, including some form of opium. In cases where there is a great deal of fermentation, or where the trouble can be traced to sour milk, where the stools are very acid and the breath has a sour smell, the best remedy is benzoate of ammonium or of sodium, boro glyceride, calomel and chalk, salicin, or salicylate of sodium.

An alkaline watery discharge is always serious, and demands prompt attention. Stimulants will be found necessary in these cases, and the treatment must be with opium, the mineral acids, and astringents. Instead of giving alkalies in these cases, the mineral acids, nitric or aromatic sulphuric, with opium and astringents, will be found most useful. I should advise, therefore, testing the reaction of the discharges in all cases of watery diarrhoea. I have more than once seen a marked change for the better a few hours after a change from the alkaline to acid solutions. The acid, with the vegetable astringents, checks the discharge, lends tone to the capillaries, and stimulates the mucous membrane to a healthier action.

The opium may be pushed to the extreme of toleration in colitis, but should be used with caution where the trouble is higher up.

For the pyrexia in these disorders I use frequent cold water sponging, unless the extremities are cold; in this case the warm bath is more beneficial. In the more chronic forms, following the acute attacks, benzoate of sodium or of ammonium, acetate of lead, and solution of nitrate of iron are to be preferred.

In the purely nervous diarrhoeas, bromide of potassium or chloral hydrate will be more beneficial than any other treatment.

EPHEMERAL HIGH TEMPERATURES IN YOUNG CHILDREN.

By HENRY M. READ, M. D., Asst. Phys. to the Long Island Coll. Hosp.

From the *N. Y. Med. Jour.*, July 19, 1884:—Bouchut, in his work on the "Diseases of Children," says:—"In the first stage of childhood there is *no relation between the intensity of the symptoms and the extent of the material lesions.*" The most intense fever, restlessness, cries, spasmodic movements, and convulsions may disappear in twenty-four hours without leaving any traces. These cases are familiar to all practitioners, and have caused many agreeable surprises at their termination. I shall content myself with presenting one class of these disorders only, which is to me the most interesting, and these are the cases *ephemeral high temperatures* in infants. I have seen six cases recently.

CASE 1.—The first case was that of an infant under nine months of age. I was called to see the child—a female—about midday, and was told that she had not been sick since her birth till the date of my visit. The mother said the child had been rather fretful during the night, but had nursed during the early morning, and had gone to sleep as usual. About 10 o'clock a. m.—I saw it between 12 m. and 1 p. m.—she noticed that it was sick. It vomited and cried, grew feverish and steadily worse, till she sent for me. I found the patient presenting only the general symptoms of fever, except that the bowels had moved twice and naturally, and it had urinated freely, the urine on the napkin being normal, so far as could be judged, in quantity and color. The pulse was 200 a minute, respiration 80, and the thermometer in the rectum marked 105.5° F. Considerable nervous disorder was present, and fearing convulsions, a warm mustard-bath was ordered, and four grains of chloral hydrate, dissolved in a little sweetened water, were administered. The child's skin, I should state here, though hot and burning to the touch, did not present the other characteristics of a feverish skin, but was most resilient and elastic. As the patient grew quiet, I left, but saw her again that evening. Two more doses of chloral—in all, twelve grains—had been given meanwhile. She had been sleeping during the afternoon and was better, and, on visiting the child in the morning, I found her quite well, with normal temperature, though she had apparently lost some flesh.

The other cases I shall not relate in detail. They presented, in the main, the features that the one described did. In Case II the patient had a temperature of 103° , and was well in twenty hours. In Case III there was a temperature of 103.5° , and the patient was well in less than fourteen hours. In Case IV the temperature was 106° , and there was so much disturbance of the nervous system, with tension of the fontanelles, that I administered chloroform by inhalation, which was followed by a profound sleep of several hours, and a drop to normal temperature within twenty-four hours. Cases V and VI did not differ in any particulars from those mentioned.

These cases are extremely puzzling—sometimes they are of shorter duration than those given—a sudden jump of the temperature up, to be followed in a few hours by as sudden a fall almost, and subsidence of all grave symptoms. The only explanation which occurs to me of these phenomena is that of the *insufficient regulating power* of the nervous system. The undeveloped state of the nervous system in the young and the troubles it gives rise to are well understood; but the exact influence of the nervous system upon the production of heat within the body is not yet thoroughly elucidated. That it has an important part to play is undoubted.

I had adopted the chloral treatment of these ephemeral fevers of children from my own clinical experience and observation, but I find the same remedy recommended in these cases by Da Costa and Wilson, of Philadelphia.

The following points may be taken into consideration in endeavoring to make a diagnosis between these ephemeral fevers and others of a specific or symptomatic nature: (1.) The absence of any local inflammation, or of the history of any recent injury. (2.) The abrupt beginning, without prodromes; the rapid rise in temperature; the early severity of the febrile symptoms, commonly greater at the commencement than in either enteric or typhus

fever. (3.) The duration is very short, usually not more than twenty-four hours—oftener less than more. (4.) Absence of eruption. (5.) Absence of the abdominal symptoms of enteric fever and the circulatory symptoms of meningitis. (6.) Absence of jaundice, or of the enlargement of the spleen and liver which marks malarial and relapsing fevers. (7.) Absence of epidemics of all kinds. (Wilson, "Continued Fevers.")

SCARLET FEVER OF THE FŒTUS IN UTERO.

By CHARLES A. LEALE, M. D., of New York.

From the *Medical News*, May 31, 1884:—Scarlet fever of the fœtus in utero so seldom occurs that many physicians of extensive experience, and several writers on the diseases of children, doubt the possibility of its occurrence in the unborn child, and intimate that the reported cases are those in which probably a mistaken diagnosis has caused the physician to call the usual redness of the entire skin of the newly born child, a disease which we recognize as caused by a special poison which alone can produce scarlet fever. Having had the sad experience to witness the occurrence of this malignant malady in a young family, a week after the arrival and unpacking of woollen garments belonging to a visiting relative at the time suffering from severe tonsillitis, and who had just left a house in another city, where a recent death followed throat disease and scarlet fever, induced me to warn the profession of the danger, and give a brief review of the literature of this disputed subject.

The importance of calling attention to the danger of scarlet fever to the parturient woman, received a new impulse when I read in the *Journal of the American Medical Association*, dated April 19, 1884, an article on "Scarlatina as a Cause of Puerperal Septicæmia," copied from another medical journal, and therefore spread broadcast before the profession of the country, where instances are related where a woman was confined in the same bed with a patient having scarlet fever, without the occurrence of any ill effects; also, where a medical man left a case of scarlet fever to attend two cases of midwifery; and another, who, "with hands freely peeling from scarlatina," attended three cases of confinement, and that not one of these cases had anything the matter subsequent to confinement.

The differences between septicæmia and scarlet fever are as distinct as those between measles and smallpox; and the instance to be related where the mother, infant, and nurse, all contracted scarlet fever, is unlike anything occurring where the originating cause is septicæmia.

The accumulated evidence of a number of European and American observers and writers on scarlet fever, strongly demonstrates its occurrence in the child at birth. Physicians of very large experience however have stated that they have never met with a single instance, and refer to articles in print as arguments in their favor, but we who have been brought face to face with epidemic scarlet fever during childbirth, have to respond that experience has taught us the lesson that it does occur.

At a meeting of the Obstetrical Society of Philadelphia, held April 3, 1884, Professor Parvin stated that children have been born with measles, but he had not known of such an experience with scarlet fever.

The earliest ages at which Meigs and Pepper have seen scarlet fever well marked was once at twenty-one days, once at five months, and twice at six months, while of the 148,829 cases collected by Murchison from the death returns of Great Britain, 9,999, or about seven per cent., were under one year.

Vogel states that very young children are but rarely subject to the fever, and only become affected by it in severe epidemics. In New York City during the past year, 1883, out of a total of 744 deaths from scarlet fever, 67 were under one year old.

Dr. Leale then reports the case of a child born Jan. 9, 1875, near the end of the ninth month of intrauterine life and at about the middle of the erup-

tive stage of scarlet fever in the mother. Desquamation and desquamative nephritis were well marked in the child from the 10th to the 18th day after birth.

Dr. W. T. Taylor reports a case of scarlet fever in a mother two days after labor, proving fatal in two days. The child lived.

Prof. Louis Thomas mentions two instances where Murchison observed the birth of healthy children by women who at the time were suffering from scarlatina, and that Elsässer also reports that a primipara, twenty-six years old, and already affected with the eruption, bore a healthy boy, concerning whose fate nothing is said, so that he probably recovered, while the mother died four days after.

Prof. J. Lewis Smith states that although cases have been reported of scarlet fever occurring in the foetus and manifesting itself by the usual signs at birth, yet a clear diagnosis in such instances is necessarily difficult on account of the character of the scarlatinous eruption on the one hand, and the nature of the cutaneous circulation on the other, and concludes that probably in the cases there were errors of diagnosis.

Dr. William C. Roberts in an article on the diseases of the foetus in utero, in the year 1839, states that scarlatina has never, he believes, been known to affect the foetus in utero.

According to Noirot, Baillou, as early as 1574, established the occurrence of such cases; and Ferraris has also published an undoubted case. Tourtual and Stiebel report cases [Ziemssen's].

Prof. A. Trousseau informs us that in 1828 in thirty-six cases the scarlatinous eruption showed itself in forty-eight hours after delivery, and in a few days the patients died.

Prof. Ernst Wagner, of Leipsig, tells us that during pregnancy everything that is transportable in the mother's blood may be carried to the foetus, and that in this way the mother's anæmic state may harm the child. Syphilis and smallpox, seldom scarlet fever, measles, dysentery, typhoid fever, intermittent fever, and even tuberculosis and cancer may be communicated to the foetus.

During the past twelve years I have seen three cases of undoubted puerperal scarlatina; two in my own private practice, one having died, while the other recovered after having the most profound symptoms of a severe attack, followed by desquamation of the skin and nails, a complete loss of hair, and a long, tedious convalescence covering several months, but followed by a complete recovery. The third case of scarlet fever at childbirth was in a patient of the late Dr. Peaslee, whom I was requested to see while she was in convulsions. She was covered with the eruption, and Dr. Peaslee told me that he considered it an unmistakable case. This patient died on the third day after delivery. Her child died about two minutes after birth.

Scarlet fever is not nearly so fatal when it occurs more than a week after labor, as when it appears before or simultaneous with childbirth. During the past twenty years' practice, I have observed one such occurrence, when the eruption appeared on the eighth day after labor; in this instance the mother recovered. The infant was not affected by the disease.

Conclusions.—(1) Scarlet fever may attack the foetus in utero. (2) The large proportion of children born with scarlet fever recover. (3) Scarlet fever of the newly born child has like manifestations as when it occurs later in life. (4) Scarlet fever may attack the woman during pregnancy and also immediately after childbirth. (5) Scarlet fever is exceedingly fatal to the woman during pregnancy and during parturition. (6) Scarlet fever rarely, if ever, affects the parturient woman if she has had a previous attack. (7) Scarlet fever causes death in the parturient woman by coma, exhaustion, or by convulsions. (8) Scarlet fever being a self-limited disease, is best treated by relieving dangerous symptoms, and in accordance with the rules of hygiene. (9) Scarlet fever only exceptionally occurs during the ages that women bear children; therefore, the proportion of those liable to contract the disease during pregnancy and childbirth, must necessarily be small. (10) Scarlet fever and septicæmia are distinct diseases, being unlike in many respects.

ADDENDA.

RECTAL ETHERIZATION.

Dr. E. R. SQUIBB, in the *Ephemeris*, July, 1884, says:—A new fashion has lately been introduced of producing anæsthesia by the introduction of ether vapor into the rectum and colon, and however irrational and unpromising, it soon found numerous followers. The result is that although several lives have been sacrificed even in the short time since its introduction, it is still practiced and recommended. The absorption of the ether vapor by the walls of the intestine must necessarily be irregular and uncertain; in consideration of the known phenomena of local anæsthesia, for if the walls be thoroughly paralyzed and relaxed by the anæsthetic, the contained vapor might as well be in a distended bladder outside the body. But if no obstruction by fæces or by spasmodic contraction should be present, and the vapor should pass far up in moderate quantities, insufficient to do more than stimulate the parts, the absorption might be very rapid. In short, the conditions of such an application are so little known and so little under control, and are so far beyond the reach of observation, that for the present, at least, the method is irrational and unjustifiable.

PLASTER-OF-PARIS BANDAGE IN FRACTURES.

From *Ed. Med. Index*, Aug., 1884.—Dr. DENNIS' report of 144 cases of compound fracture is of more than common interest. Some of his principles or theories we think, however, are fallacious; for instance, in his second "salient" point, viz.: "The method of treatment should yield results, unattended by septic infection, by non-union, by shortening, and by deformity."

This would lead us to infer that his cases of fracture get well without "shortening!" which, as a rule, we believe to be incorrect. We believe long bones never unite without shortening. Several years ago this question was agitated through the journals, and drew out opinions from our prominent surgeons, both at home and abroad, and by far the greater part of them declared that shortening was the rule.

Dr. Dennis claims that he does not use Listerism, and yet he does. We may be thought "old foggyish," but we believe the most there is in Listerism is absolute cleanliness. We concede to Mr. Lister, however, that he has done much for the profession in enforcing so emphatically absolute cleanliness as an element of success in his mode of treatment.

We are pleased when Dr. Dennis advocates the immediate application of plaster bandage. Some advise against it, recommending to wait till inflammation has subsided. In simple fractures this is certainly useless, and in most cases of compound fractures, as it is an easy matter to make openings in the bandage for drainage, and also, if necessary, it can be cut open if it should be too tight. No dressing ever used for fractures is the equal of the plaster; none can so completely fill the leading indication in all fractures, viz.: to coaptate the ends of the bones and keep them there till union takes place.

CONSTIPATION.

Dr. E. R. SQUIBB, in the *Ephemeris*, directs attention to water as an element in the causation and treatment of constipation. He defines constipa-

tion as an undue accumulation of excrementitious matters in the alimentary canal. Of the causes, he says there are many, but there is one condition so common to all kinds of constipation as to be almost universal. The residuary matters of the food become so dry and hard that the means provided by the economy for their extension are insufficient. It seems absurd to say that the immediate cause of dryness and hardness is want of moisture, and that want of moisture is a mass of matter previously well supplied with it is owing to undue absorption, and yet this very childish statement expresses the simple conditions in almost all constipations, and indicates clearly enough what is needed.

Any diminution of this physiological proportion of water must occur either from insufficient supply from without, or from increased excretion by either the kidneys, the skin or the lungs, or by all of these together; and within this narrow compass all the causes of ordinary constipation must be found. Then these causes fall naturally under two heads, namely: defective supply, or excessive excretion of water, and these causes may act separately or together; but when considered separately, the rare cases in which they act together will be easily understood.

Insufficient supply of water or of succulent food is probably the ultimate cause of three-fourths of the cases of ordinary constipation.

Many years ago a treatment of constipation founded upon these principles was adopted by the writer, and many times every year since, he has had abundant testimony in regard to its efficacy. Dr. Squibb says further that a good way—if not the best way—of taking water is in the way of fresh fruit.

But if the kidneys drain off this additional water as fast as it is taken, collateral means may be resorted to, such as increase in the proportion of the laxative elements in the food—increased proportion of fresh fruit, increased exercise, etc., and if needed, the temporary but regular use of mild laxative medicines in moderate quantity. Laxatives should be taken preferably immediately after each meal, as in the case of the officinal dinner pill. Aperients should be taken largely diluted, either at bedtime, carefully avoiding too much bed clothing, or half an hour before breakfast, so as to supply the vessels with liquid and thus prevent their taking it too quickly from the food.

An important element in some cases of constipation is the inspissation of what has been called the natural purgative—the bile. The same deficiency of liquids which inspissates the fæces, produces also a constipation of the liver.

The re-establishment of the natural law of liquid supply will often correct this condition very slowly and imperfectly, or not at all, if the kidneys be active in keeping the liquids drained off to the degree of the established bad habit. Then it is that a laxative medicine which acts by election upon the duodenum, becomes necessary. The old-fashioned dose of calomel, or the emetic, come in here in a very effective, though rather rough and unpleasant way. Taken in time, as such cases now are, a mild mercurial, properly combined for laxative effect, or a good preparation of taraxacum, or some proper combination of podophyllum, taken at bedtime, or night and morning for a day or two, will generally correct the condition, and once corrected properly the normal supply of liquids will, after a while, prevent a recurrence of what never could have occurred under the laws for a healthy economy.

RUPTURE OF THE REPAIRED PERINÆUM AT SUBSEQUENT CONFINEMENTS.

Dr. H. F. WALKER, Proceedings of N. Y. Obs. Soc.; *N. Y. Med. Jour.*, Aug. 16, 1884.—Within two months he had attended three women, multiparæ, each of whom had renewed rupture of perinæum. The first patient had had three children, and he had attended her in her first and third confinements. There was rupture of the perinæum at the first confinement, which he repaired immediately. The second time she was delivered the physician who attended her closed a rupture of the perinæum, and it healed by first intention. The third child was born, and again there was rupture. In the two

other cases two children had been borne, Dr. Walker having attended one of the patients in both confinements. In both there had been rupture of the perinæum at the first confinement, which was closed, and again rupture and closure at the second confinement, the operation on each occasion being attended with success.

Dr. J. B. Hunter had repaired a rupture through the sphincter ani in one case, and only slight laceration took place at a subsequent labor, the sphincter remaining perfect. In three other instances he had avoided renewed laceration at confinements by retarding the progress of the head, but the perinæum was not left so strong as before labor.

Dr. C. Mackenzie had seen one woman who had had rupture of the perinæum at three successive confinements. The lesion seemed not to occur each time in the same place. Repair had been effected without difficulty.

Dr. H. J. Garrigues had attended a woman in three confinements. In the first two a laceration of the perinæum occurred, which healed entirely after primary operation; in the third no rupture took place, although the child was as large as the others had been, if not larger.

OLEATE OF COPPER IN PARASITIC DISEASES OF THE SKIN.

Dr. F. LE SIEUR WEIR, of Philadelphia, in the *N. Y. Med. Jour.*, Aug. 30, 1884, directs attention to the use of oleate of copper in parasitic diseases of the skin, and says that *Epilation is rarely necessary*, in this class of affections, where the oleate is employed. His observations have been confined to Tinea tonsurans, T. circinata, T. kerion, Eczema maginatum—all caused by the same parasite; T. sycosis, T. versicolor, and T. favosa—each due to a separate parasite. He gives the following prescription to illustrate the average range of strength.

R. Cupri oleatis, 3i to vi; ung. petrolei, q. s. ad. ℥i. M. Cut off the hair close to the skin. Remove the scales, crusts, scurf, or actual dirt. Apply the ointment, of suitable strength, twice daily. It is not necessary to wash the part except at infrequent intervals. The comparative length of time to effect a cure is variable.

VARICOCELE.

Dr. T. W. WILLIAMS, of Milwaukee, Wis., in a paper published in the *Med. Age*, recommends a method as a substitute for occlusion and excision in the treatment of varicocele. It consists of the use of an instrument which obviates the necessity of any kind of operation, and does away with the use of the suspensory bandage. The instrument is made of soft, flexible metal, so that after being applied the two bars can, if necessary, be pressed a little closer together. It is a scrotal clamp, which being closed is slipped upon the scrotum sufficiently high up to support the testicles in their proper position. It will generally be retained there without any trouble, but if inclined to slip off, the bars may be pressed a little closer together. It is generally worn during the day and removed at night. Its philosophy is exactly the same as that of excision of the scrotum. In other words, it forms a natural suspensory of the scrotum itself. Very few cases will be met with in which it will not answer every purpose of excision.

CAN LOCOMOTOR ATAXIA BE CURED.

Dr. G. M. HAMMOND, of New York, *Proceedings of the Amer. Neurolog. Ass'n*, has collected a few cases which show that posterior spinal sclerosis has been cured. He reached the following conclusions however in his paper:

(1.) That absence of the patellar tendon reflex in locomotor ataxia is not always caused by sclerosis of the posterior columns. (2.) That sclerosis of the posterior columns may exist without being accompanied by the ordinarily prominent symptoms of ataxia. (3.) That congestion of the posterior half or the spinal cord may give rise to most, if not all of the symptoms of locomotor ataxia. (4.) That it is impossible during life to make a differential

diagnosis between posterior spinal sclerosis and posterior spinal congestion. (5.) That posterior spinal congestion is curable. (6.) That there is no evidence to show that sclerosis once existing in the spinal cord has ever been removed. (7.) That those cases of so-called locomotor ataxia which have been cured were simply cases of spinal congestion more profound in the posterior half of the spinal cord.

CHRONIC BRIGHT'S DISEASE.

Dr. HIRAM CORSON, Conshocken, Pa., in the *Medical Times*, writes:—A farmer, 46 years of age, complained for several months of ailments not uncommon in the beginning of Bright's disease, and finally sent for a physician, who, finding his urine to be very albuminous, put him under the use of the various medicines recommended in that affection. Months passed; the limbs began to swell, and the anasarca was over the whole body. All the usual remedies of the day were applied, but with only the effect of temporary relief at times, to be followed by aggravation of the symptoms. When he was in this deplorable condition, I remembered case upon case seen forty or fifty years ago, much like this, and proposed that we try the old plan. So we began to give in pills one grain of calomel, one of digitalis, and one of squill, three times a day, morphia and chloral, one or both, at night, to relieve oppression and induce sleep. Day after day we went on for two weeks, before the breath announced that the system was affected by the calomel, and all this time there had been no perceptible change save an increase in quantity of urine. But then all the symptoms showed an amelioration. The medicine was then used or omitted as seemed indicated. The object was to keep the system moderately under the influence of the mercury (what an awful word!) but not to push it to heavy salivation (another awful word!) From that time, every day showed an improvement—a rapid improvement—in the symptoms.

Now, *that* is just what I will do for the first advanced case of Bright's disease that may come under my care.

MAMMARY ABSCESS EXTRAORDINARY.

Dr. E. MICHENER, of Toughkenamon, Pa., reports in the *Med. and Surg. Reporter*, a case of mammary abscess occurring in a patient ninety years of age. She fell and hurt her breast when eighty-eight years old, and when the tumor was first discovered it was of the size of a hickory nut, and located near the centre of the breast. A year or so afterward the breast was more than twice the normal size during the nursing period. It moved freely and was not tender. The skin was perfectly free, soft and natural in color, touch and temperature. The diagnosis of two physicians (himself being one) was *scirrhus* of the breast. Three months later Dr. M—, found an enormous mammary abscess instead of a cancer. The amount of fluid taken away, when it was first opened, was *two and a half quarts* of dark, offensive, unhealthy pus, and the discharge continued until her death. It was opened fifteen months after the supposed injury.

TREATMENT OF CARBUNCLE BY COMPRESSION.

Dr. JOHN ASHHURST, Jr., of Philadelphia, in a clinical lecture published in the *Philadelphia Med. Times*, regards the disadvantages of incision as much greater than its advantages in the treatment of carbuncle, and recommends compression by means of strips of adhesive plaster, laid on concentrically, just as they are used in the treatment of swelled testicle. His mode of treatment was first recommended by Mr. O'Ferrall, an Irish surgeon, who applied compression by means of plaster made to cover the whole mass of the carbuncle, and when suppuration began he cut a central opening for the escape of pus. Dr. Ashhurst prefers to use the plaster in strips.

QUARTERLY EPITOME

OF

AMERICAN PRACTICAL MEDICINE AND SURGERY.

WESLEY M. CARPENTER, M. D., Editor.

The attention of the profession has been attracted especially to cholera during the last quarter. Early in June an affection made its appearance in Toulon, subsequently in Marseilles, cities on the southern coast of France, concerning the exact nature of which there was, at first, some difference of opinion. It was also a question whether or not the disease would spread beyond the localities named. M. Fauvel an eminent French authority, gave the opinion that it would prove to be essentially a local epidemic, sustained by, if not originating in, the bad sanitary condition of the cities in which it first appeared. Dr. Koch an equally eminent German physician expressed the opinion that the disease was not only Asiatic cholera, but that it would, without doubt, spread over Europe and probably reach America.

The epidemic, although comparatively benign in character, increased to such an extent that dread of communication fastened upon all the near and many regions more remote from the infected centres. It was believed extensively that the prediction of Koch would certainly be fulfilled. But within a few weeks the epidemic reached its height, and began to manifest unmistakable evidence of decline. Indeed it nearly ceased, and then increased somewhat, and it is at the present time still in existence. In the mean time cholera has made its appearance in several other towns in the southern part of France, in Spain and Italy.

We have already received something of the medical history of the epidemic. The first, and perhaps most important,

was the communication of M. Jules Guérin to the Académie de Médecine, Paris. It was an elaborate paper based upon the clinical history of the first cases of the epidemic, obtained from physicians residing in Toulon and Marseilles, and the distinguished author announced his belief in the doctrine that the epidemic disease then prevailing in those cities was not to be distinguished from Asiatic cholera, that it originated there, and did not arise from importation.

At the same seance a letter from M. Fauvel, who for years has been an advocate of the doctrine of the contagiousness of cholera, was read in which he accepted the view that the disease is *not* contagious, and that it may originate in conditions entirely local, such as bad sanitation, etc.

This announcement coming from Fauvel was like a thunderbolt, and M. Guérin likened it to the sound of the trumpet of the prophet around the walls of Jericho.

The doctrine of local origin was so contrary to that which has been accepted as the classic opinion, that it was soon assailed. At the next meeting of the Académie the discussion was opened by M. Proust, and continued by M. Besnier, both of whom supported the doctrine that cholera nostras and Asiatic cholera are distinct diseases. These gentlemen also quoted from letters written by physicians residing in Toulon and Marseilles, and explained the fact dwelt upon by M. Guérin—namely—that cases of true cholera developed at different quarters in a city, separated by long distances, and without the

possibility of intercourse of the patients with each other—on the supposition that all the patients might have been exposed to the cholera, then become scattered, and that the disease developed after periods of incubation varying in length.

Concerning the origin of the present epidemic there is a difference of opinion amongst the physicians whose letters have been quoted with regard to the clinical history of the disease. So far as we have been able to learn there is no well-established evidence in favor of the opinion that the disease reached France by importation. M. Proust does not believe that it was imported by the ship *Sarthe* from Cochinchina. Indeed there is a difference of opinion as to when the cholera made its appearance in Toulon, M. Sedan maintaining that the first case developed in a sailor who debarked from the *Shamrock*, April 22nd, and gave the hospital authorities such grave apprehension that immediately after the patient's departure, the building was thoroughly disinfected.

With reference to the *Sarthe*, it seems to be proven that there were two cases of cholera on board when the ship was in the river Saigon, that these patients entered the hospital, where one died, and the other was cured; that the ship was disinfected and afterward forty days at sea without the development of another case, and that she passed regular quarantine inspection before being allowed to enter the harbor at Toulon.

These facts have been accepted and quoted, by those who believe that the disease was imported by the *Sarthe*, to prove the uselessness of quarantine regulations.

A similar discussion took place in London, beginning as early as February of this year. Sir Wm. Hunter read a paper before the Epidemiological Society in which he advanced

the view that cholera nostras, cholérine, cholériform, cholera morbus, and cholera Asiatic were essentially and pathologically one and the same disease. As in the Academy at Paris, this doctrine met promptly with vigorous opposition.

So far, the doctrine that Asiatic cholera is a disease that is caused and propagated by a virus belonging to it and to no other affection, is sustained by the weight of authority. The prevailing opinion is that it is a germ disease produced by a special micro-organism, although the evidence to substantiate this opinion is not yet complete.

Again it appears, that absolute cleanliness is the most powerful agent in preventing and arresting the disease, and in guiding its victims toward recovery.

The movement set on foot in Philadelphia to establish the S. D. Gross Professorship of Pathological Anatomy, will doubtless meet with the hearty approval it deserves. Dr. Gross gave great honor to American Surgery, and no more appropriate method could have been adopted for keeping his memory fresh than that proposed.

To accomplish the desired end the personal friends of Prof. Gross and all others are cordially invited to participate in this grateful recognition by sending their contributions to Dr. R. J. Dunglison, Treas., Lock Box 1274, Philadelphia P. O., the receipt of which will be acknowledged by the *Medical News*.

BOOK NOTICES.

AUSCULTATION, PERCUSSION, AND URINALYSIS. Edited by C. Henri Leonard, A.M., M.D., Prof. of the Med. and Surg. Diseases of Women, Michigan Coll. of Med., Detroit. Fully Illustrated. Published by the Illustrated Med. Jour. Co., Detroit, Michigan.

The editor states that the reason for this little book lies in the fact that there has been a demand for a work on Physical Diagnosis, where the main points are briefly and plainly expressed.

Physical Diagnosis pertains to inspection, palpation, percussion, and auscultation; but the editor has given the reader more than these, and by so much has gotten out of the legitimate sphere he intended to occupy. We find more or less of histology, pathological anatomy, diagnosis, etc., foreign to the real scope of the book. However, full and running over may be more acceptable than scant measure. The union of urinalysis with physical diagnosis is a commendable feature, although not a new one. The illustrations in urinalysis are about as good as usual, but they are not worthy of special mention.

The work, as a whole, reflects credit upon the editor, and will doubtless be acceptable to both student and practitioner.

DISEASES OF THE THROAT AND NOSE.

By Morell Mackenzie, M.D., Lond.
Vol. II. Illustrated. Philadelphia:
P. Blakiston, Son & Co., 1012 Walnut st. 1884.

This volume of 540 pp. contains three sections; one on the œsophagus, one on the nose, and one on the nasopharynx, together with an appendix in which are found formulæ for topical remedies.

The long delay in the publication of this part of Dr. Mackenzie's work had well nigh discouraged the American student, but now that it has appeared it will be received and read with more than usual avidity by workers in this department, because the author has not only advanced to the foremost ranks in his specialty, but has familiarized himself with like work done on this side of the Atlantic.

We are pleased to see that due credit has been given to our countrymen for

writings, and for ingenious instruments devised for treating diseases of the upper air-passages. In this respect the Laryngologists have the best of the Gynecologists, whom some grumbling reviewer, evidently an ignorant Englishman, in the columns of the *Medical Times and Gazette*, thrashes every time opportunity is offered.

A detailed review of this work is unnecessary, and unprofitable. No man can reasonably doubt its worthiness, notwithstanding the fact—a fact which applies to all books published—that the author advances views and makes statements which are perhaps more or less at variance with the generally accepted doctrines. Were it otherwise the book would not be worth a fig. Again Morell Mackenzie can say and do things with apparent impunity, which would bring disaster, if not total ruin, upon a less eminent though possibly equally learned practitioner.

In short there is not very much in this volume, with which laryngologists, who have kept up with the rapid advance that has been made in their special work, have not already been made familiar. Notwithstanding this, the high reputation of the author and the creditable style in which the publishers have presented the book, will ensure for it, doubtless, a large sale.

A MANUAL OF PATHOLOGY. By Joseph Coates, M.D., Pathologist to the Western Infirmary and the Children's Hospital, Glasgow. With 339 Illustrations. Philadelphia: H. C. Lea's Son & Co. 1883.

This is a volume of 800 pp. made up of two parts. First, General diseases, including affections of the circulation and of the blood; inflammation; retrograde metamorphosis; hypertrophy, repair, and regeneration; infective tumors (granulation-tissue tumors) tumors, or morbid growths;

and parasites. Second, Diseases of the special organs and systems, including diseases of the organs of circulation; diseases of the nervous system; diseases of the organs of respiration; of the alimentary canal; liver, pancreas, and peritoneum; of the urinary organs; of the female generative organs; of the male generative organs; of the bones and joints; and diseases of the skin.

While the book is not wholly the result of the author's own observation in pathology, it is far from being simply a compilation. It contains a goodly amount of original work and a number of new illustrations, which show that Dr. Coates is not an inexperienced man in this field. Nevertheless, the cuts as well as the text might be improved. The illustrations are not, as a rule, so good as the text, and the text is not beyond criticism. But the subject is presented in a systematic manner, which balances, to a good extent, the deficiencies mentioned. It does not present so fascinating an appearance as the more recent work by Woodhead, but the reviewer is inclined to the opinion that it possesses sufficient merit of its own to entitle it to high consideration, and enable it to maintain its hold upon the profession.

PATHOLOGY AND MORBID ANATOMY.

By T. Henry Green, M.D., Lond.
Fifth American, from the sixth revised and enlarged English edition.
With 150 Engravings. Philadelphia:
Henry C. Lea's Son & Co. 1884.

The American medical student, especially the student in pathology and morbid anatomy, needs no formal introduction to this work, and the publishers are to be congratulated on having secured a revision and enlargement of the fifth English edition.

To the volume which has so long been consulted by students, there have been added an introductory chapter, and chapters on "Tumors," "Regen-

eration," "Septicæmia and Pyæmia," and "Vegetable Parasites," by Mr. Stanley Boyd, Mr. Green's surgical colleague, which keep it apace with the advancements made in this special department of scientific research. This has been done without sacrificing the original design of the book—namely—that of any "Elementary Guide for the Student of Medicine."

CHEMISTRY: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. By John Attfield, F.R.S. Tenth edition, specially revised by the author for America. Philadelphia: Henry C. Lea's Son & Co. 1883.

The author has attempted, in this manual, to apply the general principles of chemistry to medicine and pharmacy, and has succeeded in producing a very good book on the plan adopted. It will probably not be found very far, if at all, behind in the competitive race between books of a similar character.

One of its features is the modern chemical nomenclature, and the substitution of the words potassium for potassa, sodium for soda, etc. Dr. Attfield is also an ardent admirer of the metric system which he believes will ultimately supercede all others.

The book includes the chemistry of all remedial agents, and the aim has been to make it acceptable to physicians by excluding all matter relating to compounds. That it will serve the purpose well for which it was written can scarcely be doubted.

THE OPIUM HABIT. By Asa P. Meyer, M.D. Second edition. G. P. Putnam's Sons, New York. 1884.

The author handles his subject in a very pleasing style, and withal in a manner which makes it interesting for both physician and layman. It is a plea for humane methods of treating the opium habit, and is a well filled with practical directions and suggestions.

QUARTERLY EPITOME
OF AMERICAN
PRACTICAL MEDICINE AND SURGERY;
Supplementary
TO
BRAITHWAITE'S RETROSPECT;

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN
THE MEDICAL SCIENCES, ABSTRACTED FROM THE CURRENT MEDICAL JOURNALS
OF THE UNITED STATES AND CANADA.

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PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

TYPHO-MALARIAL FEVER.

By ROBERTS BARTHOLOW, M.D., LL.D., Prof. of Therapeutics and Materia Medica in the Jeff. Med. Coll., of Philadelphia.

From the *Medical News*, September 13, 1884:—It happened to me to constitute one of a Board of Medical Officers, convened in Washington, in the summer of 1862, to propose a system of reports for the preparation of the medical history of the War of the Rebellion. In the nomenclature then submitted to the Department for adoption was the term *Typho-malarial Fever*. This name, suggested by Dr. J. J. Woodward, was accepted as describing a group of cases, then supposed to be of frequent occurrence, in which the morbid complexus of typhoid fever was modified by a malarial complication. The name, not the conception, was new. The circumstances of the time favored the reception and permanent acceptance of the new term.

Dr. Daniel Drake, that great medical genius of the West, fifty years ago, recognized the fact that typhoid fever, as was and is the case with many other diseases, received a certain impression from an existing malarial poisoning. Observant clinicians, in all parts of the world within the malarial-breeding zone, have long been familiar with this fact. There can be little doubt, I think, that this view has been greatly exaggerated. The typhoid fever of Louis—typical typhoid—is capable of many modifications, of many variations under climatic and other conditions; but in what degree, soever, the clinical history may vary, the morbid anatomy does not vary.

Dr. Drake saw typhoid as it marched with advancing civilization—as it developed with increasing population—and he fancied that it possessed new features. Dr. Woodward saw the typhoid of the Chickahominy, of an army of unseasoned men, exposed to unprecedented conditions, and he concluded that it was a new malady compounded of the typhoid and malarial disease. For a time, and, indeed, during the whole period of malaria production, the symptomatology of typhoid may be somewhat influenced by the prevailing malarial poisoning. I repeat, *may be*, for, as I shall presently show, typhoid is a *continued* fever, in a certain narrow and conventional sense, only.

The word *typho-malarial*, was made originally by Dr. J. J. Woodward to express his conception of a composite fever.

Dr. Woodward admitted that this view was not accepted by all the medical officers of the army. In a paper read before the Medical Section of the International Medical Congress, in 1876, ten years later, he retracted the opinion he had at one time expressed.

Dr. Woodward, the author of the term typho-malarial fever, having abandoned the original claim as to its solidarity, it may be well now to try to indicate the real relation of the two elements composing the mixed fever.

First, as to the term typho-malarial. This is an unfortunate designation, for it implies the existence of a malarial fever into which the typhoid enters as an essential element. There is a total absence of proof that such a condition exists. Who has seen the morbid anatomy of malarial fever into which

had been projected the changes peculiar to typhoid? The term *typho-malarial* is, therefore, a complete misnomer, a misleading phrase, which should be abolished from our nosology; and should no longer appear in our text-books.

Second, as to the supposed hybrid. I much doubt the existence of a typhoid fever, whose symptoms are modified by a malarial fever. Indeed, there are reasons for believing, that in a certain sense an antagonism exists between the two, so far, that in the presence of the typhoid poison, the malarial ceases to be active. I have already given a reason for the belief that the remittent character of typhoid has been a cause of error. At the beginning of the fever, and also during the last week, the remissions and exacerbations are so well marked as to be very confusing. I have always held that the thermal line of typhoid might receive an impression from a coexisting malarial complication, might, therefore, become more distinctly remittent, but further experience has weakened this belief. If the morbid anatomy of typhoid is not thus affected, why the symptomatology? Examined anew in the light of a wider experience, I have been conducted to the conclusion that the modifications in the thermal line, supposed to be due to a malarial complication, has, for the most part, no real existence.

The action of quinine in typhoid fever, and in pseudo typho-malarial. A further reason for believing in the entire autonomy and independence of typhoid is the failure of quinine to lessen the duration of the supposed hybrid, or to effect more than a transient reduction of temperature. It does not appear, indeed, that quinine acts in any respect differently on typho-malarial fever, than on typhoid.

Many cases of typhoid bear a superficial resemblance to remittent fever, but the converse error is even more misleading. The more intense the malarial poison, the more nearly the resulting fever approaches the continued type. The order of form is well known; tertian, quotidian; remittent, of tertian, of quotidian type. If the poison be sufficiently intense, the quotidian remittent presents a thermal line closely approximating typhoid. Who has not heard of a remittent fever assuming the typhoid state? I need not say that a "typhoid state" is far from the typhoid fever.

There still remains an answer to the question, What is the nature of the influence exerted by the malarial poison on typhoid fever? It appears to be probable that when the typhoid germ begins its development in the body, the phenomena caused by malarial infection, if it exist, subside. I have held that the only modifications in the symptoms which occur, are the changes in the thermal line, the more pronounced exacerbations, and remissions, the greater excursions of the temperature. I am by no means sure that this opinion is correct.

If the malarial poison remains in abeyance during the predominance of the typhoid action, there comes a time when it asserts itself. After the typhoid infection has spent its force, there occurs an intermittent, which may greatly prolong the convalescence if not recognized and effectively treated. In my experience, this intermittent succeeds to the typhoid in all cases, in which a really active condition of the malarial poison exists. In the absence of such manifestation, we may well doubt that a malarial complication enters into the morbid complexus. Where the patient is simply affected by that which is styled "chronic malarial poisoning," the influence is sufficient to modify the typhoid process to an appreciable extent. If, however, the malarial infection is active, during the sway of the typhoid fever, it is either overpowered, or, at most, merely increases the daily thermometric range; but as the typhoid process subsides, then the malarial comes into play, and we have a convalescence interrupted or protracted by an intermittent or remittent fever. Often, indeed, have I witnessed these phenomena.

ÆTIOLOGY AND PROPAGATION OF CHOLERA.

By GEORGE B. SHATTUCK, M.D., Visiting Physician, Boston City Hospital.

From the *Boston Med. and Surg. Jour.*, Nov. 13, 1884:—In epidemiology, as in other departments, there are some matters of facts upon which authori-

ties are agreed, some upon which they differ, and some matters of opinion and observation which are being now actively prosecuted.

From the history of cholera since the existence of accurate records, and of its course in the Western Hemisphere since its first appearance in Europe in 1829-1830, one learns two facts upon which epidemiologists are pretty well agreed: (1) That cholera is constantly present in some parts of India, where it has its periods of recrudescence, which precede the European outbreaks. (2) That Europe is, as a rule, invaded along the lines of travel; the first epidemic followed the course of the caravans to Orenboorg in Central Russia, the last the line of the steamers up the Red Sea to Alexandria and the Mediterranean ports in Southern France.

Being agreed upon these points, the question naturally presenting itself is, Why India and the province of Bengal in India should be the home and breeding ground of cholera. And the answer is to be found in the very character of the Ganges Delta, in its climate, soil, water-courses, and consequent habits of immense neighboring populations. This is as fair an explanation as one gives for the existence of the Negro in Africa, the Mongolian in Asia, the Caucasian in Europe. In neither case need we be required to account for the appearance of the primordial representative.

As far as anything is known of the subject, cholera epidemics have never broken out "spontaneously," as it were, outside of India, and they depend upon the intercourse of human beings for their propagation.

The present position of the best authorities, which meets facts as observed, and may be accepted as correct, may be briefly stated thus: That cholera is conveyed by individuals, and its poison is contained in and is propagated by the discharges from the bowels of those infected, which finding access to drinking water, or resting upon food or upon the hands, gain entrance to the digestive tract of others. It is not certain that in a heavily charged atmosphere the poison may not be swallowed with the air, but the infection must always take place through the alimentary canal, and in this very limited sense alone can cholera be spoken of as "contagious," thus probably resembling typhoid fever. In other words, an individual who could avoid swallowing the poison might safely associate with cholera patients, and the digestive functions being quite healthy he would probably escape even if swallowing a moderate dose.

I purposely abstain from going into the minute pathology of cholera, from calling the poison a germ, much less a microbe, and still less a bacillus or spirillum.

A review of the history of cholera and a statement of its ætiology and mode of propagation suggest immediately its mode of progress and the means of prevention. The flux of the bowel contains the poison, moist filth nourishes and breeds it, the deranged alimentary canal invites and entertains it anew.

Hence to prevent the entrance of the disease to a place or country we require cleanliness of person and purlieus, a plentiful and pure water supply, perfect drainage, and wholesome living. To oppose its spread, once being in, we demand occasional isolation of the sick, and constant destruction or disinfection of contaminated discharges and effects.

Just in proportion as communities are conscious of shortcomings in sanitation, in water supplies, in drainage, and are too poor or too lazy to reform such, they may and will call for a quarantine whose rigidity shall be in direct ratio to these deficiencies. They may thus deceive but will not protect themselves. The worthliness of a perfunctory quarantine of a fixed number of days—whether of five or of forty—for every vessel if on the sea-board, or for every individual if in the interior, has been proved over and again, and never more forcibly than in the late invasions of Italy and Spain.

The period of incubation of cholera is believed to be over twelve hours and under five days. On an average two to three days. The life of the poison outside the bowels, even when favored by moisture, is believed to be rather short—probably under thirty days. Based on these observations the best aid to sanitary supervision at home for the exclusion of cholera is notification from foreign ports or places by competent authorities of the departure of

infected vessels or individuals, and inspection upon arrival by trained sanitary officers with a certain latitude of action. More reliance being placed upon the judgment of the individual official than upon the rigid phraseology of a State or national proclamation.

DISCUSSION ON CHOLERA.

At the Cholera Conference held in Berlin in July, the following questions were discussed. We give a summary of the discussion.

Is cholera generated by a specific infectious material which comes from India only?

No dissenting opinion was expressed.

Is the infectious material contained in the stools, and eventually in the vomited matters, or is it also found in the blood, urine, perspiration, and expired air?

Prof. Virchow said that this question was important because the members of the French Commission in Egypt believed that the infectious material was found in other parts of the body, as in the blood, which was denied by Koch, because infection never occurs from making an autopsy, whilst with other diseases, as splenic and relapsing fever, in which the infectious material is found in the blood, infection does occur. So far he had seen the infectious material only in the stools, with the exception of one time in the vomited matter.

Is the presence of the comma-bacillus of diagnostic value (a); and is the infectious material of cholera identical with the comma-bacillus (b)?

Dr. Koch thought that both of these points should be considered together, and that (b) covers both. He wished, however, to state expressly that the microscope is sufficient only in a few cases; and that it is especially necessary that culture-methods be employed.

Prof. Virchow said that the practical question is still subordinate. He would state the question (b) thus: Is the infectious material of cholera to be considered as identical with the comma-bacillus? And he would say that some of the elements of certainty were still lacking. On the one hand, cholera has not been communicated to animals through the medium of the comma-bacillus. This, however, is not an absolute counter-proof. Nor does it yet appear to be absolutely impossible to produce a case of cholera in an animal.

On the other hand, the whole history of cholera, its manner of spreading, shows that it must be referred to a living organism, and all measures for its prevention must be based on the supposition of this living organism.

Does the infectious material possess great capacity for resistance, and a permanent condition? Is it destroyed in a short time by drying?

Prof. Virchow referred to a late discussion which he had had with Prof. von Pettenkofer on this subject, in which the latter had gone so far as to state the possibility of the material remaining in a permanent form for a long time, so that the germ of the infection may remain latent in a place for many months and then cause an outbreak of the disease; and he regarded it as very possible that the germ had been introduced into Toulon early in the year.

Dr. Koch said, in reply, that his experience went to show that the cholera germ possessed neither a capacity for resistance nor for remaining in a permanent form. He has kept the comma-bacilli in a reagent-glass for six weeks, but they did not on that account possess a permanent form. As soon as they were dried they died immediately.

He has shown, however, that the comma-bacillus can stand a very low temperature, and that it can exist apart from the human body—on potatoes, for example—or its existence may be prolonged for some time in a reagent-glass with gelatine, or on linen.

Can the infectious material get into the body in any other way than through the digestive canal?

Dr. Koch said that he had purposely introduced this question into the discussion because Pettenkofer is of the opinion that it can also be introduced by the breath and through the lungs.

Prof. Virchow remarked that von Pettenkofer rejects every other method of infection than that by the air and the lungs.

Dr. Koch said that he had found that, under exceptional circumstances, the infecting material can be conveyed through the air, but only to a very short distance; and it may be said, as a rule, that it is not thus introduced.

Prof. Leyden referred to the fact that the persons who carry cholera corpses are often infected, and said that although they might possibly be infected in some other way than through the air, he thought this hypothesis the more probable; not that the material necessarily reaches the interior of the body through the lungs, but it may be conveyed to the mouth through the air.

Dr. Skrzeczka thought it also possible that in dry weather the infecting material might be carried through the air in the dust, and thus reach the mouth.

Dr. Koch said that it would be very strange if only the men employed in handling the bodies should be infected, and the nurses and the physicians who come into closer relations with the cholera patients, and with the vaporized discharges, should so often escape.

Is the infectious material reproduced in man, or does this occur independently of the human body in the soil, and is man (and animals) only the carrier?

Prof. Virchow said that there was another question which would come in here. If this is essentially an air-breathing organism, is the human intestine an especially favorable place for its development?

Dr. Koch said that he had already asked himself the same question. But there must be a supply of free oxygen in the intestine, or at least such a combination as will furnish oxygen to the bacillus.

Prof. Virchow thought it very probable that it was reproduced both in the soil and in man. As regards the soil, Dr. Koch has at least shown the possibility that moist earth may serve as a base for its growth.

Is a direct transportation possible, or must the infectious material go through a kind of ripening or growth in the soil or elsewhere?

Dr. Virchow thought that there is no ground for holding to a hypothesis of a special generation-change or ripening.

Dr. Koch maintains that the infecting material would need a special process of ripening in soiled linen, since the linen cannot be infectious in the fresh state. He himself believes that the soiled clothing is infectious as soon as it becomes soiled.

Is the infectious material conveyed only by human intercourse?

What are the carriers of the infectious material to distant places; ships, articles of clothing, letters, healthy or infected men?

What are the carriers of the infectious material to neighboring places; cholera corpses, cholera effects, soiled clothing, articles of food, water (for drinking and household purposes), the air, insects?

Dr. Skrzeczka said, in reference to these questions, that from Koch's standpoint it did not seem impossible that the contagion could be conveyed by rags and clothing.

Prof. Virchow said that rags are no more important as elements for carrying infection than filth.

Dr. Koch would only say that he had had no practical experience as to the question now under consideration, and it seemed very doubtful to him. The question of the possibility of infection by means of rags was considered in the Cholera Congresses at Vienna and Constantinople, and no one could bring forward a single example of cholera being spread from rags, as, for example, amongst the rag-sorters in paper mills; and it must be concluded that the handling and working of the rags is such that the infectious material is destroyed. And of what avail would it be to keep rags out of the country while men infected with cholera are allowed to come in?

Is a special individual predisposition necessary for the infectious material to become active?

How long is the stage of incubation?

Does recovery from cholera confer immunity from the disease for any definite period?

Can the action of the bacilli be regarded as a kind of intoxication?

Prof. Leyden said that one attack of cholera seemed to give a certain immunity against a second; but that this immunity is not absolute.

Prof. Hirsch said that he had never known of a period of incubation of less than two days, and that, as a rule, it was from three to four days—never five.

ON THE PARASITIC DOCTRINE OF EPIDEMIC CHOLERA.

By AUSTIN FLINT, M.D., LL.D., Prof. Principles and Practice of Med. and Clin. Med., Bell. Hosp. Med. Coll., New York.

From the *N. Y. Med. Jour.*, Oct. 25, 1884:—Has epidemic cholera been proved to be a parasitic disease?

On what grounds do Koch and his associates base the conclusion that the comma-bacillus has an essential causative relation to cholera?

1. That the organism is present in all well-marked cases of cholera. Koch failed to find it in no instance, the number of cases examined being one hundred.

Somewhat opposed to these observations by Koch are those by a commission composed of MM. Straus, Roux, Nocard, and Thuillier, who studied the disease in Egypt in August, 1883, by direction of the French Government. The members of this commission conclude that, quoting the language of the report, they "do not feel authorized to attribute a specific action to the microbe which they found in greater abundance in the majority of cases." The discrepancy between the results of the examinations by the French commission and those by Koch renders important further investigations by different competent and trustworthy microscopical observers.

2. That the organism is not present in the healthy body nor in cases of diseases other than cholera. In a considerable number of cases of different diseases the results of examinations by Koch were negative as regards the presence of this parasite in either the intestine or its contents.

Should it be established that the comma-bacillus is invariably present in cases of epidemic cholera, and that this parasite is never present except when this disease exists, it is logically certain that there is an essential pathological connection between this parasite and the disease. It does not, however, follow that the parasite is the cause of the disease.

A crucial experiment for determining a causative connection of the parasite with the disease is inoculation. Similar efforts were made by the members of the French commission with the same negative result.

It is, however, to be considered that failure to obtain proof by the latter crucial experimental test by no means disproves the parasitic doctrine of cholera. All animals are not susceptible to the morbid action of micro-organisms which are known to be the causative agents of specific diseases in man. This is true of the *Bacillus tuberculosis*. Experiments have as yet failed to produce in animals typhoid fever by inoculation with the micrococcus which it seems quite certain is the causative agent in the production of that disease. The same is true of the bacillus of leprosy.

It would go very far toward establishing the parasitic doctrine were it to be shown that the parasite had been introduced into the body prior to the development of cholera. Could this fact be established in a considerable number of instances, the proof of the doctrine would approximate to that afforded by inoculation. Some striking facts observed in India bearing on this point have been noted by Koch, especially through the medium of drinking water.

It is not to be denied that there are difficulties in the way of reconciling the parasitic doctrine, as developed by Koch, with certain facts relating to clinical experience. The greatest of these difficulties relates to the diffusion and transportation of the contagium vivum.

The destruction of the parasite within the intestinal canal by any of the parasitocides which are found to destroy it outside of the body appears impracticable.

The parasitic doctrine does not, of course, invalidate what clinical experience has taught respecting the treatment of cholera. And clinical experience has taught that there is no disease with greater certainty controlled at the outset than this. The controlling remedy, *par excellence*, is opium. Let opium, conjoined with rest of the body and of the digestive organs, be judiciously employed before the characteristic choleraic dejections occur, and the further development of the disease is prevented with almost absolute certainty. Let this treatment be promptly resorted to as soon as choleraic dejections have taken place, and, in a large proportion of cases, the disease is arrested.

As to the preventive measures to be employed, if the parasitic doctrine is true, the direction which these should have is sufficiently clear. Complete destruction of the parasite directly it leaves the body is the object to be effected.

WHAT DO WE KNOW ABOUT CHOLERA ?

By FRANK H. HAMILTON, M.D., LL.D., of New York.

In a paper read before the N. Y. Academy of Medicine, and published in the *N. Y. Med. Jour.*, Nov. 15, 1884, Dr. Hamilton says: (1) We have no positive knowledge of the existence of a specific cholera-germ. (2) The theory of Koch, that the comma-bacillus is the cause of cholera has not been established. (3) Even if it were established that the comma-bacillus was always present in cholera and never present in any other condition of health or of disease, it would not determine the question whether this bacillus stood in the relation of cause or effect. (4) The theory is defective, also, in that it has not been shown that the ingestion or reception into the human system of excrete containing the comma-bacillus will produce cholera. (5) By the successful inoculation of the germs alone, after they have been completely isolated by cultivation, could they be proved to be the cause of cholera, and this has not been done. (6) The cholera germ (using the term as a substitute for "cholera-infecting material," whatever that may be) may be conveyed from place to place by clothing or any other textural fabrics, by articles of food, or by water, and by many other animate and inanimate substances. (7) It may be conveyed for considerable distances by the air. There is, no doubt, a limit to its conveyance by this method, and I have reasons to believe that it cannot be thus conveyed beyond a mile or two. (8) That the entrance of the germ into the system occurs only through the mouth and stomach, or that this is even the principal mode of propagation has no foundation than Koch's improved, and to me improbable, theory that the comma-bacillus is the true germ of the cholera. (9) There is quite as much reason to believe that it is conveyed into the system by the respiratory organs, and diffuses itself through the circulatory system. (10) That the cholera virus may have been received into the system, and not necessarily infect the system, or give rise to cholera. (11) The conditions requisite to render the inoculation of cholera by the ordinary methods effective are all those conditions which cause, or coexist with, disturbance of the natural secretions of the alimentary canal, including fear and other depressing mental emotions; the presence in the bowels of undigested, fermented, putrefying, or of other acrid ingesta; deterioration of the air habitually inhaled, from personal filth, and from overcrowding in ill-ventilated apartments; inhalation of the air from putrefying masses of vegetable or animal matter, from stagnant pools of water, or from *soils freshly exposed*; and, finally, the concurrence of a warm and moist condition of the atmosphere. (12) There has been as yet no specific discovered for the treatment of Asiatic cholera. The means which have been most successfully employed are essentially those which have long been known to be successful in the treatment of diarrhoea, cholera morbus, and other allied affections. (13) Removal of an infected person to a perfectly healthy region, does not in most cases cause a propagation of the disease in that region.

MICRO-ORGANISMS.

From advance sheets of the Introductory Lecture at the opening of the fall course of the Medico-Chirurgical College, of Philadelphia, by Prof. Hugo Engel, we glean the following interesting points about micro-organisms. For a long time investigators were undecided whether micro-organisms, as they are comprehensively termed, belonged to the animal or the vegetable kingdom. It has now been decided that they belong to the latter. The terms *micro-organisms*, *microbes*, and *microzymes*, all mean the same thing. Micro-organisms are divided into two primary divisions: 1, *HYPHOMYCETI*, and 2, *SCHIZOMYCETI*. The first class are the pathogenic factors of external diseases, as favus, aphthæ and thrush; while the second cause the internal diseases. The schizomyceti are subdivided into the following classes.

1. *COCCI* or *MICROCOCCI*, which are small round bodies, and embrace the cocci of pneumonia, pigment cocci, and some ferment cocci.
2. *BACILLI*, which have a rod-like shape, whether long or short, such as the bacilli of typhoid fever and tuberculosis.
3. *BACTERIA proper* (the whole class are often called bacteria), such as bacterium termo, the common grade ferment.
4. *VIBRIONES* or *VIBRIOS*, those which have a wavy form, as *probably* the comma-bacillus of cholera.
5. *SPIRILLI*, in the form of stiff screws, such as many of the micro-organisms causing decomposition.
6. *SPIROCHÆTI*, in the shape of flexible screws and other fantastic forms, such as the micro-organism of relapsing fever.

[In this classification it will be noticed that the cleft-fangs, said to play an important part in coagulation necrosis, are omitted.—ED.]

It has been calculated by Ferdinand Cohn, that if the bacterium termo were unimpeded in its propagation, and if one were to multiply into two in the first hour and these into four in the second hour, and these into eight in the third hour, and so on, the result would be 16,000,500 in the first day, and 281,000,000,000 on the second day, and that in five days' time the progeny of this little microscopical body would fill the oceans of the world, so wonderfully numerous and fertile are they. One micrococcus, $\frac{1}{1000}$ of a millimetre long and $\frac{1}{1000}$ of a millimetre thick, and of which 1,600,000,000 are required to weigh one grain, would in three days produce 50,000,000 pounds of offspring.—*Med. and Surg. Reporter*, Sept. 27, 1884.

TREATMENT OF OPIUM AND ALCOHOL HABITUÉS.

By WILLIAM D. RONALDSON, M.D., of Philadelphia.

From the *Coll. and Clin. Record*, Oct., 1884:—Until the medical profession and the public at large take an enlightened (and if possible a charitable) view of these subjects, which, in time, they will be compelled to accept, and acknowledge that a disease and not a vicious habit exists, little or nothing can be done for the cure and reclamation of the opium habitués or of those addicted to the use of alcoholic, or, in fact, any other form of stimulant.

The injustice and injury done these patients is inexpressible and incalculable. Every symptom points to and indicates a grave disorder and disturbance of the nervous system and centres, and yet, in the very face of this fact, the tendency is to aggravate the disease by the treatment pursued at the present time, and to cause retrogression instead of progression.

I do not propose now to discuss the question of vice or sin in relation to the opium or alcoholic habit. The person comes to us for relief as a *patient*, and we should treat him, socially and professionally, as a diseased person, and not as a brute or an outcast.

The causes which tend to produce inebriety are various and numerous, but I think may be included in the following:—(1) Pain (mental and physical); (2) Insomnia; (3) Exhaustion; (4) Investigation (of effects of drugs).

I do not include in my enumeration heredity (used especially in connection with alcoholic inebriety) because the term, like malaria, seems to be used as

a convenient explanation of certain ailments to hide our inability to discover or our indisposition to search for the cause.

From personal observation and experience I am of the opinion that though through undue susceptibility to alcohol (as to any other drug) one may succumb to its influences sooner than another, the use of it begins as an acquired habit and taste, which eventuates in disease of the nervous system, causing inebriety.

The man who can take spirits, and does take them, every day in the year, just in sufficient quantities to obtain the stimulative effect, without producing outward evidences of intoxication, is an habitual drinker, and can control his appetite and guard against excess; but as soon as this control is lost, so that he craves it and must indulge frequently and in large quantities, he has passed from the creature of habit to that of disease, the inebriate.

I agree with the views of writers who consider alcoholic inebriety a disease, but it is a disease acquired by the individual *per se*, and not bequeathed to the individual as an heirloom.

The medicinal treatment of the diseases under consideration is so similar that I shall discuss, in as concise manner as possible, that of opium habituation only. There are two systems of treatment generally pursued.

1. *Immediate and total deprivation* (practiced in Europe), which I only mention in order to condemn in the strongest terms—a most inhuman and barbarous practice.

2. *Rapid but gradual withdrawal.* Humane to the patient and successful to the practitioner.

The indications in the treatment are substitution, and relief of nervousness, insomnia and exhaustion. The amount and length of time the opiate has been taken is of little moment, for, the patient's general health permitting, the reduction and withdrawal may begin at once.

The bromides (sodium and ammonium I would prefer) I would recommend as the substitute, given in large, full doses (at bedtime, or oftener if necessary), so that by the time the opiate is totally withdrawn the patient will be in a drowsy, sleepy state, fully under their influence. He should be kept under their influence for a few days, it being gradually withdrawn until natural sleep comes. If the bromides fail to produce the desired hypnotic effect, cannabis indica or chloral may be given in addition, and in the same manner. The other hypnotics belonging to this class may also be substituted, with good effect. [Dr. Hughes of St. Louis, recommends large doses of quinine. Dr. Hubbard of New York uses the solid ext. of Cannabis Indica. —Ed.] If we consider that the patient has been using the most powerful narcotic, and it is our aim to break him of its use by substituting a less potent agent, the necessity and propriety of administering the substitute in large, full doses, and getting him rapidly and well under its influence, at once becomes evident and undeniable. By following this course, total withdrawal can be effected in most cases in a week or ten days, and with little discomfort to the patient.

The exhaustion, sometimes bordering on collapse, is to be treated with tonics and stimulants, and those I would recommend are coca, capsicum, quinine, nux vomica, Fowler's solution, phosphorus, iron, galvanic and faradic current. Good nutritious, digestible food is indispensable, and to it may be added preparations of cod-liver oil.

THE OPIUM HABIT.

Dr. R. P. H. in a review, published in the *Amer. Jour. Med. Sciences*, Oct., 1884, of three books on this subject, writes as follows on the subject of treatment.

Opium-smoking, as also opium-taking, can be readily and rapidly broken up by a *sudden removal of the drug*. This is the usual plan in the opium-asylums of China, and has been carried on without danger for some years. It has been found to work better than a gradual withdrawal, and the smoking habit can be broken up in from four to seven days, "from one to five days being the longest period of much suffering." In the Foochow Asylum Dr.

Whitney uses tonics, simple but nutritious diet, sedatives, and remedies to relieve vomiting, diarrhoea, and constipation, and to expel worms; the diet consisting of milk, congee and eggs, beef, mutton and chicken tea, and a few kinds of fruits. *Congee* is the Chinese substitute for milk, and is made from chicken and rice boiled in water, being really a combination of chicken-water and rice-water.

Dr. Shearer [author of one of the books reviewed] is an advocate of the immediate withdrawal of the drug under all the varieties of its use, and says that this plan of treatment, as is the case with the inebriate, is advocated by nearly all of the physicians who have had much experience in managing opium cases. He remarks upon this point that "the risk of collapse from sudden privation is wholly imaginary, and, though involving sharper suffering at first, it becomes every day easier to bear (especially good and sustaining nourishment being taken in the mean time), and is thus really the kindest and most efficient method of curing the patient;" he quotes many authorities who sustain him in his views. My own experience would lead me to coincide with Dr. Shearer in his method as an almost universal one, I say *almost*, because I believe there are exceptional cases, where the patient, from using enormous doses of morphia, and becoming emaciated from want of appetite and digestive power, would be in great danger from withdrawing at once the whole amount.

Dr. Shearer, after absolutely interdicting all use of opium, resorts to the use of the hot bath at 110° F. several times a day, and nutritious diet, and administers the following, viz.:—*R. Tincturæ nucis vomicæ, acid. hydrochlor. dil., tinct. humuli vel aurantii, aa f ʒ ss; atheris chlorici, f ʒ iij; infus. cascarillæ vel chiretto, ad Oss.*—*Misce. Sig. f ʒ ss to f ʒ j every four hours, half an hour after food, in a wineglassful of water.*

For the anæmic or chlorotic condition of many opium-smokers he recommends the following:—*R. Ferri et quiniæ citratis, ʒ j; strychniæ sulphatis, gr. j; sp. ammoniæ arom., f ʒ v; ætheris chlorici, f ʒ iij; aquæ cassiæ, Oss.*—*Misce. Sig. Half a teaspoonful three times a day after eating.*

The Mission Hospital Pill, which is carried about China by physicians, and given to opium-smokers under a reformatory treatment, is composed as follows:—*R. Ext. nucis vomicæ (vel hyoscyami), gr. ij; quiniæ sulphatis, gr. j; pulv. capsici, gr. j; olei menthæ piperitæ, gtts. ij.*—*M. ft. pill. Sig. One pill three or four times a day in the interval between meals.*

Dr. Fleming uses the following:—*R. Acid. phosphoric. dil., f ʒ x; tinct. humuli, f ʒ xxx.*—*Misce. Sig. A dessertspoonful every four hours.*

Quinine alone is considered an excellent remedy, so also is the ammoniacal tincture of valerian, one or two teaspoonfuls to relieve nervous headache and prostration. Valerianate of zinc, electricity, fluid extract of coca, smoking stramonium, bromides, and hydrate of chloral, are also used in the treatment of opium cases.

CHRONIC ALCOHOL POISONING.

From an editorial in the *N. Y. Med. Jour.*:—M. DUJARDIN-BEAUMETZ has just published an account of some extensive experiments which he has recently performed in the *abattoirs* of Grenelle, Paris, on chronic alcoholic poisoning. The subjects of his experiments were hogs, being subjected, for a period of nearly three years, to daily dosing with small quantities of alcohol, the spirit being mixed with their food.

The general effects upon the animals on which he experimented, were that, whenever the daily dose of alcohol did not exceed one gramme for each kilogramme of the animal's weight, the digestive system bore it with very little inconvenience. An idea may be formed of the quantity here indicated by supposing the case of a man weighing one hundred and twenty pounds; such a man, if the human constitution is affected by alcoholic stimulants like the porcine, might ingest with reasonable impunity about two ounces of alcohol a day, say, in the form of a gill of good whisky. When the dose mentioned was exceeded, the experimenters constantly observed, in the course of a few days, the following symptoms: Loss of appetite, more or less marked;

vomiting of bile and glairy mucous; and diarrhoea, more or less abundant, the stools sometimes containing a mixture of mucous and sanguinolent matters. These phenomena on the part of the alimentary canal sometimes took on so acute a character that it was found necessary to suspend the administration of the alcohol, and put the animal on a milk diet.

As regards the hepatic system, several of the hogs presented, during life, a yellowish discoloration of the conjunctivæ, and the urine was tinged with bile. Post mortem, the liver was found congested, but there was neither interstitial hepatitis nor ascites. It is a noteworthy fact that the connective-tissue frame-work of the hog's liver is more dense and resisting than that of man.

"Our animals," say M. Dujardin-Beaumetz, speaking of the urinary system, "never had hæmaturia; their urine, the density of which was always normal, and in which we never found albumin, was colored only by bile. The post-mortem examinations which were made revealed fatty degeneration of the kidney. M. Cornil, in his histological examinations, was at first struck with this steatosis. But this fatty change is almost constant in hogs. Therefore we think that it can not be attributed to the alcohol regimen imposed on our subjects.

Of the respiratory system: "Almost all our hogs had a cough, and some of them never ceased to cough. At the post-mortem examinations of the latter we noted marked pulmonary congestion, which, in a few instances, had given rise to hæmorrhages. This alteration seems to us to have had a double origin. It may be attributed in part to elimination of alcohol by the respiratory passages, and in part to atmospheric influences (the weather a part of the time being very severe). It is worth noting also that during the period of alcoholic hebetude which followed the ingestion of the spirit, and which lasted several hours, the animals remained immovable in their pens, and readily became chilled. This condition undoubtedly favored the development of broncho-pulmonary catarrh."

No circulatory disturbances were noted in these animals, although the least exertion induced a state of breathlessness. The heart, in every instance, appeared fatty, but hogs, according to M. Dujardin-Beaumetz, are exceedingly liable to fatty heart under any kind of alimentation. The valves were healthy. In several cases, however, atheromatous patches were noticed at the root of the aorta; these were limited to the first portion of that vessel. The experimenters disposed to attribute these atheromatous patches to alcoholic poisoning.

VENTILATION.

The first condition of efficient ventilation is *air space*; but the amount of space depends upon a variety of circumstances. Hospital conditions, for example, require the largest amount of space, and modern experience has shown that, other things being equal, *no* inclosed space equals plenary exposure. But for various practical purposes the limits of space vary from 300 to 4,000 cubic feet—the smallest proportion being the exaction for lodging-house dormitories, and the largest for hospitals—making due allowance in all cases for space occupied by furniture.

And *no deviation should be made on account of children*, whether in regard to the different members of a family or a school-room. With regard to this point, John Simon, one of the most distinguished sanitary authorities, well observes:

"It is to be desired that laws and regulations as to overcrowding should not proceed on the assumption that children (to any measurable extent) require less breathing space than adults. Against any such assumption two facts have been considered: first, that even healthy children, in proportion to their respective bodily weights, are about twice as powerful as adults in deteriorating the air which they breathe; secondly, that the children will almost invariably have certain eruptive and other febrile disorders to pass through, from which adult life is comparatively exempt, and in which the requirement of space is greatly increased. And having regard to these two

considerations, I think it best that children and adults should be deemed to require equal allowances of air and ventilation."

Moreover, it should be observed that the mere space allowance should in no case detract from the absolute necessity of means for renewal of the air, and the smaller the space to be ventilated, so much the more certain should be this provision. If 300 feet only be allowed, the air must be changed at least every 20 minutes. To neutralize the deleterious properties of respired air and replenish it, every person requires 2,000 cubic feet of fresh air hourly, and with less provision than this contamination is sure to follow.—*Sanitarian*, September, 1884.

THE CAUSE AND CURE OF A COLD.

From the *Medical Age*, October 10, 1884:—While a cold is generally directly traceable to exposure to inclemency of weather, a draught, dampness of the feet or some other cause which acts as a rapid conductor of caloric from the system or suddenly throws the blood circulating in the superficial capillaries into the deeper organs, it is a most patent fact that scores and hundreds of such exposures occur without deleterious consequences. Why is it, that of a hundred men exposed at the same time to the same disturbing causes, the "cold" which one contracts shows itself as an acute naso-pharyngeal catarrh; that which another contracts reveals itself as a pneumonia; while that of others take on the form of enteritis, or Bright's disease of the kidney, or cystitis, etc.? And why is it that of this hundred all but half a dozen or so escape without ill effect? The answer must be sought in some antecedent departure from the complete standard of health, through which the person attacked is placed in a condition which renders him susceptible to disturbances which in the case of those in good health, cause nothing more than a slight physiological irregularity. This departure from the full standard of health may be, and usually is, due to errors of personal hygiene. Anything which interferes with the proper functions of the intestines and skin, particularly prepares the system for an attack of cold. The person whose digestion and the function of whose skin are properly conserved by wholesome exercise and baths, with friction, is practically proof against colds. It is a mistake to hold that baths protect against colds by their "hardening" action. They act beneficially rather by placing the skin in proper condition for its function of depuration. A weekly hot bath is a better prophylactic against colds than a daily cold bath, and when it can be taken in the form of the Turkish bath, its virtue is enhanced. While an exceptionally robust person may take a daily cold bath with impunity during the winter, and may even be benefited by it, the indiscriminate use of such baths is capable of much injury.

A cold, as clearly defined by the *Lancet*, is a disturbance of the balance between the several parts of the nervous system, brought about by the shock of a sudden or prolonged exposure to the depressing effect of a chill; although the same physiological results may be produced in the organism by the operation of any agent which is capable of giving the system a similar shock, and thus creating the same kind of a disturbance. Nature's provisions against the consequences of a chill, and for the prevention of a cold, are sneezing and shivering. Brisk exercise after exposure to the causes of a cold is also frequently effective in warding off an attack, and should always be indulged in when practicable.

A "cold" having been contracted, what is the best means of throwing it off? For a number of years we have, however, relied quite exclusively on the treatment recommended by Dr. Dobell, of the Royal Hospital for Diseases of the Chest, London, and have come to regard it as the most effectual of any yet suggested: 1. Give 5 grains of carbonate of ammonia and 5 minims of liquor morphia (B. P.—morphia, gr. $\frac{1}{2}$) in an ounce of almond emulsion, every three hours. 2. At night give $\frac{3}{4}$ jss. of spts. Mindererus in a tumbler of cold water, after the patient has got into bed and been covered with some extra blankets. Cold water should be drunk freely during the night when there is thirst. 3. In the morning the extra blankets should be removed, so

as to allow the skin to cool down before getting up. 4. Let the patient get up as usual, and take his usual diet, but continue the ammonia and morphia mixture every four hours. 5. At bedtime the second night, give a compound colocynth pill. Usually about twelve doses of the mixture will be found sufficient, but should the catarrh show any disposition to return after leaving off the medicine for a day, another six doses may be taken and another pill at bed-time. The beauty of this treatment lies in the fact that it does not interfere with the patient's business, and does not expose him to the fresh attacks of cold which are liable to follow exposure to the outer air after a course of hot, stimulating, diaphoretic drinks.

AN EDITOR'S ADDITION TO THE THERAPEUTICS OF "A COLD."

This is the season of the year for "catching cold." The fact that no one was ever known to catch heat is spoken of as evidence that heat travels faster than cold. Patients with "a cold" seldom consult a physician unless it is unusually severe, but since they do come occasionally it is well to have the most successful methods of treatment in mind. The first object in the treatment of any disease is diagnosis. This is difficult in some diseases, and the treatment proportionately so. Of a cold, however, a few questions will usually suffice: "You do not look well, how's your cold?" "Breddy bad, thag you"—and there, the first difficulty is solved, the diagnosis is clear enough. Skill in diagnosis usually implies competency for treatment, and who so competent to arrive at a correct diagnosis of a cold as an Editor? The very nature of his occupation favors it, as intent upon his work, he sits in the highest, coldest, and generally most cheerless room of the establishment, his only thought for the future being of benefitting his readers and getting out in time.

Editors are seldom dandled in the lap of luxury. They may seem a rollicking set of fellows, but they know what it means to have "the nose on the grindstone," and are very familiar with colds, cold shoulders, etc. It was an editor who, when asked why he spoke of a ten dollar greenback as a "ten dollar William," said he did not feel well enough acquainted to call it a "Bill."

As he sets with ink-daubed fingers, head bent over his work, and a nose that volunteers to drop by drop, do the punctuating gratis, who—we repeat—can have a greater interest in a cold than an Editor? The whole fraternity and all their readers owe a debt of gratitude to the Editor who placed on record the following plan of treatment which was successfully carried out by one of his corps: He boiled a little boneset and horehound together, and drank freely of the infusion before going to bed. The next day he took five pills to "open the bowels"—they did open them and no mistake—put one kind of plaster on his breast, another under his arms, and another on his back. His mother put some onion draughts on his feet, and gave him a lump of tar to swallow, and a friend of his mother advised him to apply a mustard paste after removing the plasters. They came off hard, but he finally removed them using an oyster knife. Then he put hot bricks to his feet and went to bed. Next morning another old lady "a dear old soul," brought in some goose oil and gave him some on a quill, and an aunt arrived from the country bringing him a bundle of sweet fern, which she made into a tea and gave him every half hour until noon, when he took a large dose of salts. Later in the day he took a half a pint of hot rum at the suggestion of an old sea captain in the next house, and steamed his legs with an alcohol bath. At this crisis an old lady from the next block, who had had much experience in doctoring, arrived, who saw at once that his blood was out of order, and gave him a half gallon of spearmint tea and a big dose of castor oil. Before going to bed he took eight of a new liver pill, wrapped a flannel soaked in hot vinegar and salt about his neck, and had feathers burned on a shovel in his room. He is now thoroughly cured and full of gratitude. We advise our readers to cut this out, and keep it where it can be readily found for the benefit of those who make it a practice to stop the doctor in the street and make a casual conversation, the means of obtaining advice gratis.—*Phys. and Surg. Investigator*, Sept. 1884.

ON THE USE OF DIURETICS.

FRANCIS H. WILLIAMS, M.D.

From the *Boston Med. and Surg. Jour.*, Oct. 2, 1884:—In the *Practitioner* for April and May one of the editors, Dr. Brunton, discusses this subject in a very interesting and practical manner.

Diuretics may be employed either for the purpose of removing water or solids from the body. They are used:—

"(1.) To remove the excess of fluid met with in the tissues and serous cavities in cases of dropsy.

"(2.) To hasten the removal of injurious waste products and poisonous substances from the blood.

"(3.) To dilute the urine.

"In cases where the accumulation of the fluid depends on venous congestion, as, for example, in cardiac dropsy, those diuretics which act on the general vascular system, like digitalis, strophanthus, squill, or erythrophleum, are most efficient because they tend to remove the cause of dropsy, as well as to assist the absorption and excretion of the fluid already effused.

"When the dropsy depends on the disease of the kidneys or liver other diuretics should either be given instead of, or along with, digitalis or squill, even in cases of cardiac disease. Where digitalis or squill are not proving efficacious the addition of a little blue pill greatly assists their action, though it would be hard to say in what way that it does so.

"In dropsy depending on kidney disease decoction of broom and oil of juniper, and nitrous ether are amongst the most reliable diuretics, and copaiba in the hepatic dropsy.

"Diuretics are used to increase the secretion of solids in febrile conditions and in cases of kidney disease where the excretion of waste products is deficient, and their retention threatens to prove injurious. In such cases nitrate and bitartrate of potassium, turpentine, and juniper, and caffeine are useful.

"Diuretics are also used to increase the proportion of water in the urine, and thus to prevent the solids being deposited from it and forming calculi in the kidney or bladder, or even to dissolve again concretions which have been already formed.

"Water is, perhaps, the most powerful diuretic which we possess, although fewer experiments have been made with it upon animals than with the others. The diuretic action of water drunk by a healthy man is very marked, and it appears impossible to explain its elimination by a mere increase in blood pressure, whether general or local. It has, as we have remarked, the power of increasing tissue change, and thus multiplying the products of tissue waste which result from it, but it removes those waste products as fast as they are formed, and thus, by giving rise to increased appetite, provides fresh nutriment for the tissues, and thus acts as a true tonic.

"In persons who are accustomed to take too little water the product of tissue waste may be formed faster than they are removed, and thus accumulating may give rise to disease. If water be freely drunk by such persons the product of waste will be removed, and health maintained or restored. Thus many gouty persons are accustomed to take little or no water except in the form of a small cup of tea or coffee daily, besides what they get in the form of wine or beer. In such people a large tumbler of water drunk every morning, and especially with the addition of some nitrate or carbonate of potassium, will prevent a gouty paroxysm. Still more numerous, possibly, is the class of people who rise in the morning feeling weak and languid, more tired, indeed, than when they went to bed. I am in the habit of advising such persons to drink a tumbler of water before going to bed in order to aid the secretion of the urine and of the waste products during the night.

"In some cases, though not in all, the result has been satisfactory, and, possibly, might have been still more so had I added to the water the bicarbonate and nitrate of potassium, which, as I have already mentioned, is so useful in cases of gout.

ON THE TOLERANCE OF CORROSIVE SUBLIMATE IN SMALL AND FREQUENT DOSES.

By ANDREW H. SMITH, M.D., Visiting Phys. to Presbyterian Hosp., New York.

From the *Medical Record*, September 20, 1884:—As a preliminary to the more extended use of corrosive sublimate as an anti-zymotic or anti-ferment, it is important to settle the question of the safety or danger of administering it in such quantities as may reasonably be expected to act upon the mass of the blood in such manner as to destroy a poison floating in the circulation.

The dangers to be apprehended are, first, local irritation; second, mercurial poisoning.

The following observations will help to form an estimate of each of these dangers. It may be premised that in no case was the degree of dilution less than one in ten thousand. The first eight observations were at the Presbyterian Hospital, the last three in private practice.

From an examination of these histories it will be seen that in five of the eleven cases, the bichloride given in quantities of from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain, and at intervals of one or two hours, produced no ill effect. Of the other six cases diarrhœa with griping occurred in one, bloody diarrhœa in two, and pytaliam in two.

The bloody diarrhœa occurred in one case after seven hourly doses of $\frac{1}{8}$ grain the first day, and eight hourly doses on each of the four succeeding days. In the other case the drug was given in the same dose but at intervals of two hours throughout the day, and the bloody discharges occurred after four days. In both instances the diarrhœa ceased immediately on the withdrawal of the medicine.

Stomatitis occurred in one case after five days' use of the bichloride in hourly doses (during the day of $\frac{1}{8}$ grain, and in the other case after two days.

In one case an idiosyncrasy caused gastric distress and vomiting immediately upon taking $\frac{1}{8}$ grain, and this recurred when the dose was repeated some hours afterward.

In one case of phthisical diarrhœa $\frac{1}{8}$ grain every hour for two days neither increased nor diminished the diarrhœa, producing in fact no obvious effect.

In two cases of children under seven years of age doses nearly equal to those given to adults were remarkably well tolerated.

In three cases, one of chronic diffuse nephritis, one of scarlet fever and diphtheria, and one of measles, the drug produced a marked diuretic effect.

In one case of phthisical hectic the temperature was apparently reduced in a marked degree by the bichloride.

THERAPEUTICAL REMARKS ON HAMAMELIS VIRGINICA.

By J. R. BLACK, M.D., of Newark, Ohio.

From the *Med. and Surg. Reporter*, Oct. 4, 1884:—Thirty years ago, in the treatment of hemorrhages, not to have prescribed the acetate of lead would have been deemed an unpardonable omission. Ergot was not then mentioned in such disorders—save in those of uterine origin, and on account of its acknowledged power to produce uterine contraction. Now, not to give the latter agent in hemorrhages, wherever their source, is to lay one's self open to the charge of the sin of omission, such as pertained to the sugar of lead three decades ago. What has produced this revolution in practice? Mainly, if not wholly, the power of ergot to bring about a contracted state of the arterioles.

Granting this quality to be experimentally demonstrated, affecting all the minute arterial vascular tissues of the body alike, it does not follow that the blood pressure at some eroded or ruptured point is thereby diminished. Unfortunately for the doctrine of elective affinity, ergot affects the arterioles of the body everywhere alike. At least this is the theory which guides its

administration, be the hemorrhage in the central, pulmonary, renal, intestinal, or uterine tissues. With the arteriole calibre and capacity thus universally diminished, the quantity of blood in the body the same, and the heart acting with its usual force, it ensues, according to hydrostatic law, that the pressure in the containing vessels must be enhanced. This is one of several considerations that has led me to doubt the styptic power of ergot, and so far as the *pose hoc ergo propter hoc* statements go, unless one knows that the observer is skeptically alert to its fallacies, they are far from being entitled to unquestioning acceptance.

It has been with me, as no doubt with many others, a rule of action, that when the remedy of main reliance in the treatment of a disease proves on trial after trial unsatisfactory, not to rest until a better one is found—one that will fulfill all reasonable objects. It was in the search for such a remedy, as a local application for hemorrhoids, that I was led, some twelve years ago, to try the hamamelis. Palliatives in this disorder are frequently called for by those who firmly refuse all surgical interferences. After having tried almost every remedy mentioned by respectable authority for the above purpose, with very unsatisfactory results, I was induced to give the extract of witchhazel a trial.

The reports almost invariably were so favorable that the desideratum seemed to be at last attained. Its application not only lessened, but often wholly checked the bleeding, besides assuaging the suffering to a notable degree. Of course, no benefit is looked for where the vessels become strangulated and inflamed; but when they can be readily returned, well anointed with the hamamelis, benefit is quickly perceptible. The pain and soreness are soon mitigated, and a striking diminution of their size is ere long apparent. Neither this application nor any other is of much benefit unless aggravating causes are avoided, such as very dry and long-retained fæces, diarrhœa, and obstructed or turgid states of the portal circulation. With these sources of aggravation removed, the fluid extract of hamamelis, with an equal portion of glycerine, and a little starch or other excipient, for convenience of application, well smeared over the piles, and these returned, will do all, and more than any other application.

In less aggravated or long-standing cases, readily reducible, or when blind and bleeding, the application each day of the hamamelis will often effect what seems to be a permanent cure, or at least indefinite absence of all the symptoms of the disorder.

The astringent, soothing, and, I may say, anodyne effect of the hamamelis in irritated piles, led me to use it in certain forms of diarrhœa.

I order extract hamamelis fluidum and glycerine, equal parts, to be taken in dessertspoonful doses four or six times a day, according to the frequency of the stools. The glycerine is added on account of its anti-fermentative quality, and to mollify the taste of the hamamelis. The diet is composed mainly of milk and eggs.

The cases in which it is appropriate are those of atonic and colliquative character. Inflammatory states of the intestines with soreness and pressure tenderness are not presumably benefited by it; at least, I have not used it in such cases.

The value of the hamamelis in hemoptysis is at least as well assured to me as ever ergot has been. The evidence here of casual relation is however beset with difficulties.

It is usual, for instance, to employ revulsives—hot foot-baths and an opiate, to quiet the cough.

THE THERAPEUTIC USE OF MINERAL WATERS.

By NORMAN BRIDGE, M.D., Prof. of Hygiene and Adjunct Prof. of the Practice of Medicine in Rush Med. Coll., Chicago, Ill.

From the *Jour. of the Amer. Med. Ass'n*, October 18, 1884:—It is always a question how much of the benefit experienced by invalids who visit springs and water cures is due to the water and how much to the change of air, scene, occupations, diversions and living. Doubtless both are important.

That much is due to the change must be evident to any one who has observed the remarkable effects upon a chronic invalid of a vacation from effort and a journey from home. But the water drank and the baths taken are often, and may nearly always be, of great advantage to the sick. Invalids make all sorts of mistakes in the use of both, often drinking too much or too little water, and taking too many baths or too few, or at improper times and in the wrong way. But, with all their mistakes, they receive a balance of positive benefit whose value it is impossible to calculate. Moreover, they receive benefits that no one from a study of the chemical analysis of the waters would expect. Nor can the help derived always be explained by any known effects of the chemical ingredients of the water in any doses or taken in any way. Artificial compounds made to imitate as nearly as possible the composition of the natural waters have frequently failed utterly to produce the same effect on the sick.

Mineral waters are therapeutic agents; they cannot all be used with benefit in the same way nor in a given state of system, and care and judgment are required in their use as in that of other therapeutic agents.

Mineral waters are generally supposed to be either unadapted to *acute diseases*, or to do them positive harm. This view is irrational. Certain acute disorders receive the greatest benefit from laxatives, and a form of laxative medicine very grateful to many patients is such mineral waters as the Hunyadi, the Püllna, or the Friedrichshalle. To many fever patients the mild carbonated waters are extremely refreshing, and for the nausea and gastric irritability with which the sick are often annoyed, they frequently prove more soothing than anything else.

Such acute febrile diseases as are often attended by congestion of the kidneys and albuminuria may receive considerable benefit from the unirritating diuretic waters. They are grateful to the patient, cause probably an increased discharge of effete matter by the kidneys, dilute the urinary solids and render the passages more safe. The bland alkaline or calcic waters, with a touch of carbonic acid gas, will be found to agree best with such cases.

The water slightly carbonated is more grateful than the plain water, and the carbonic acid gas in small amount is oftentimes soothing to the stomach. Large doses of the gas are irritating. The charged waters as they come from the bottle are often too highly carbonated for a sensitive taste; they are too pungent. When this is the case the water may be allowed to stand for a time exposed to the air to allow part of the gas to escape before using, or it may be briskly stirred with a spoon for half a minute. The patient will easily learn the proportion of gas that pleases him.

How to drink mineral water. Do not drink it very cold unless it is a strong water and the dose is small. The milder waters must be taken in large doses (4 to 12 or more glasses daily) and should be drank cool, tepid or hot, never cold, as this might hurt the stomach and retard absorption. Many of the stronger waters, especially those that have an unpleasant taste, may be best drank hot, and, indeed, in the catarrhs of the upper abdominal portions of the digestive tube and in nearly all those conditions that go by the name of dyspepsia there is often great advantage in drinking the waters hot.

The water should in every case be taken slowly; several minutes should be given to each glass. With this precaution, several glasses may often be taken in succession without harm. The best time to drink is before a meal, especially before breakfast and supper. A meal must not immediately follow large draughts of water; half an hour at least should intervene.

No discomfort at the stomach should be allowed to follow the taking of even moderate potions of the waters. If such should occur an effort must be made to learn the reason of it. Perhaps the water is taken too hot or too cold, too rapidly or in too large draughts, at the wrong time of day or in wrong relation to a meal. If the cause cannot be discovered and the difficulty corrected, the water is not adapted to the case and should be abandoned.

THE CHOLERA BACILLUS.

Dr. A. N. BLODGETT, in a letter to the *Boston Med. and Surg. Jour.*, published Nov. 20, 1884, quotes Prof. Pettenkofer as saying, "I think that we
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all have ample cause for renouncing the 'contagionist' theory in relation to the spread of cholera. I openly announce that I am forced to sustain and defend my former opinions in regard to the 'localization' of this disease, and I do this with the more confidence and the greater positiveness from the fact that the investigations of Koch have not succeeded in establishing any evidence against their correctness.

The time is now fully come when the experiment should be made to determine whether the comma-bacillus of Koch is capable of producing true cholera. The attempts which have been made upon animals have not been successful. *I freely offer myself for this purpose, and am ready to swallow bacilli which have been cultivated by Koch himself*, provided that no local or temporary conditions exists at the time of the experiment, such as the presence of cholera in the city, etc., by which the results of the trial might be rendered valueless. (Professor Pettenkofer also declared his willingness to prepare for the experiment by first inducing a gastric and intestinal catarrh before introducing the bacilli. I estimate Koch very high as a bacteriologist, and fully recognize his ability in the highest degree, but I must combat the conclusions to which he has arrived."

DISEASES OF THE NERVOUS SYSTEM.

MENTAL SYMPTOMS OF ORDINARY DISEASE.

By JNO. BEN. STONERHOUSE, M.D., Albany, N. Y.

From the *Medical Annals*, October, 1884 :—The more intimate we become with the phenomena of mental action, the greater amount of evidence we gather of its dependence upon bodily conditions for its existence and healthy and perfect manifestation. Until lately, however, the work in the department of physiological psychology has been carried on mainly by specialists; the symptomatology and treatment of mental disease have been placed upon a scientific basis; insanity has ceased to be a dæmoniacal possession, and become a disease following the same laws as control other pathological conditions of the body. But it seems as if progress cannot further be continued without a more careful study of mental symptoms by the general practitioner, and especially in their first manifestations and in their relations to other diseases. It is with a desire to interest the members of this society [Med. Soc. Co. Albany, N. Y.] in such observations that I present this paper.

In the initial or pre-tubercular stage of pulmonary phthisis there is a well-known tendency to a high state of mental activity. Why this should be so it is difficult to say. The discovery of its cause is of sufficient importance to lead us to give it careful consideration.

Another physical condition in which an unusual mental power and brilliancy is developed, and whose causation may with greater probability be suggested, is that of chronic gout. The presence in the blood of an excess of nitrogen is well understood to be a cerebral stimulant. A nitrogenized diet is desirable for the development of nerve force. The blood of the gouty is highly charged with nitrogenized matter, and this may be the explanation of the mental condition of the gouty. There is, however, another condition to be considered. We have in these cases contracted terminal arterioles, high arterial tension and hypertrophied left ventricle. In consequence of this the blood supply to the brain is liberal, and, being rendered more stimulating by the excess of nitrogen which it carries, makes possible an unusual degree of cerebral activity.

The precocity of children suffering from rickets is well known. Another fact is that the blood vessels of their large heads are of extra large calibre.

Here, too, a stimulating effect is to be expected from foreign agents circulating in the blood—the lithates.

Perhaps no two class of diseases present such marked contrasts in their mental symptoms as the pulmonary and abdominal. The consumptive, for whose departure friends are in constant waiting, lays his plans for years ahead. A slight and transient form of abdominal disease often gives rise to a melancholia ending in suicide, while I venture to assert that a hopeful, happy, sanguine patient suffering from abdominal disease has seldom, if ever, been seen by any of the physicians present. How do these conditions affect the arterial circulation? A thoracic pulse (if such a phrase be permitted) is usually full and sometimes bounding; in abdominal disease the pulse is small and even thready. In the former case the patient is bright and hopeful; in the latter, dull and despondent.

These mental symptoms are occasionally of service in diagnosis. The melancholia of abdominal disease, and especially from inaction of the colon, is, according to Vander Kolk, occupied with imaginary misdeeds, but the melancholia associated with some disturbance of the reproductive organs takes on a religious character—"he is forsaken of God, who can never forgive him his misdeeds; he is lost eternally." The connection between morbid religious ideas and disease of the generative organs is quite constant.

We have all been used to search for the three symptoms of exophthalmic goitre—protruding eye-balls, an enlarged thyroid and tumultuously beating heart. If physicians will recall their cases of this disease, they will remember, I think, that the women have been extremely neat in dress and habits, above the average in intellectual ability, but subject to emotional storms with great irregularity, the object of fondest attention becoming suddenly, without warning, the creature upon whose head she pours the vials of her wrath.

In addition to the fear of death, of which I have already spoken, the sufferers from heart disease present a mental condition marked by caprice, unsustained volition and suspiciousness.

In cancer the most usual mental attitude is that of sullen and defiant submission to the inevitable. Not that the patient is not anxious to save himself, but his curious mental condition overpowers the instinct of self-preservation.

In pyæmia the condition is that of absolute indifference. From the first chill this indifference is noticeable.

Rheumatism gives rise to acute and chronic forms of insanity characterized by very great depression, with occasional attacks of maniacal excitement. Skae regards the psychoses of rheumatism as about as well defined as paralytic dementia as having a fair prognosis. The chronic form is the most characteristic, and has usually three stages—(1) of melancholia, either of the atonic variety or with unsystematized delusions; (2) the delusions have become systematized; (3) a mental state closely resembling general paresis. The delusions are at first of persecution, of poisoning of food, of continual stabbing, etc., etc. Later, as these become systematized, particular persons are selected around whom all the suspicions are made to gather. This is a brief sketch of rheumatic insanity, and the occurrence of these symptoms in any patient should render us suspicious of rheumatism as the cause. If however a case presents similar delusions of persecution and suspicion with delusions referring to the generative organs—that the penis is to be amputated, that it is the seat of a loathsome disease, etc., etc.—it can be determined without much hesitancy that chronic alcoholism, and not rheumatism, is the cause of the insanity.

I might speak of the mental symptoms of scarlatina, diabetes, chorea, anæmia, epilepsy, menstruation and pregnancy, and many other conditions; but enough has been presented, I think, to prove that mental symptoms are in many cases dependent upon, and characteristic of, certain bodily conditions, and that careful study of the mental condition of patients suffering from general diseases (especially before actual insanity can be diagnosed) may be made of incalculable value not only to the asylum physician, but to the general practitioner as well.

LESIONS OF THE BRAIN IN THE INSANE.

Dr. J. B. STONEHOUSE, in the *Med. Annals*, says:—It is remarkable to what an extent the idea is prevalent among professional men, as well as the laity, that by an examination of a recently removed brain, lasting perhaps an hour, the question of sanity or insanity can be determined. The truth is that gross changes in brain structure are only exceptionally connected with mental disease, and characteristic lesions are only discovered after careful preparation and examination by microscopists especially trained for this department of pathology. To show how unsettled this whole subject is, it is simply necessary to recall the fact that many of the lesions which have been described as characteristic of insanity, such as the exaggeration of the pericellular and perivascular spaces and the presence of "colloid spheres," have been proved to be simply the results of the handling and preparation of specimens. But even if there was as little difficulty in recognizing the characteristic morbid appearances of insanity as there is in an ordinary case of pneumonia, their absence in a certain case would not determine the sanity of the person, for, as Dr. Spitzka states in his "Manual of Insanity," "the likelihood of finding characteristic structural changes in the insane brain may be represented as follows: In true and recent mania that likelihood is as 5:100; in acute melancholia it is almost zero; in epileptic insanity it is as 20:100; in monomania it is as 5:100; in the terminal states it is as 60:100; in imbecility and idiocy as 80:100; in parietic dementia it reaches the figure 99+:100." Several cases have lately occurred of alleged insane homicides, whose sanity has been officially determined by an autopsy lasting two or three hours, the examination of the brain occupying only a fraction of that time.

SICK HEADACHE.

By FRANCIS F. BROWN, M.D., Boston, Mass.

From the *Boston Med. and Sur. Jour.* Oct. 25, 1884:—Sick headache, migraine, is a neuralgia. This is not the popular impression. Sufferers from it attribute it to "biliousness." This is not only the popular belief, but it was the doctrine of the systematic works until not many years since.

That this disorder is a neurosis is evident from the behavior of the attack, its change in subsequent years into ordinary neuralgia, its local effects in some cases, and its hereditary character and connections with other neuroses.

First. I think no one can watch closely an attack of sick headache, especially if in his own person, without seeing evidence of its neuralgic character.

To begin with, there may be up to the time of the onset not the slightest symptom of gastric or hepatic derangement. Persons subject to sick headache have usually premonitory symptoms which tell them an attack is impending, and are usually the same in the same person. Some of them are sudden noises in the head, flashes of light or globes of fire before the eyes when they are closed, black spots, an appearance like a gauze veil quivering, ability to see only half an object, sleepiness, etc. Whatever they are the patient knows very well what they mean. In a large majority of cases the whole course of the attack is passed through between sunrise and sunset or a little later. Some, however, and these are usually the hereditary and severer cases, suffer for two or three days of extreme wretchedness before the storm blows over. It is evident that this is something very different from the headache which is consequent upon gastric and hepatic derangement only.

Second. The neurotic character of sick headache is shown by its gradual change with the increasing age of the patient into ordinary neuralgia, preferably of the ophthalmic branch of the fifth nerve.

Third. Another fact, as given by Anstie, showing its neuralgic character, is the results which sometimes follow on the track of the fifth nerve, which is the nerve most affected, and the seat of greatest pain, namely, iritis,

ulceration of the cornea, blanching of the hair or eyebrow, local anæsthesia and periostitis of the frontal bone. The four latter of these occurred in Dr. Anstie's own person; the local anæsthesia remained permanent.

Fourth. Another point showing its character is the family relations of the disease. That it is often hereditary we all have had opportunities of observing, and the most intractable cases are among those who have had neurotic ancestors.

Sick headache is more frequent in women than in men, in those who are the subject of other neuralgias than the opposite, and in general is a disease of debility. To this latter statement there are apparent marked exceptions. Occasionally we find a subject of it who carries the appearance of robust health. My impression is that these cases usually belong to families who are subject to it or the allied neuroses.

The immediate occasion of an attack may be anything which tends to exhaust the system, especially overwork, which wearies the body while it taxes and worries the mind, and loss of sleep. Any slight deviation from one's usual routine, like a shopping excursion, or late hours, loss of a meal, or eating at an unusual hour, will induce an attack in some persons. In typical migraine I think exhaustion or loss of sleep is the occasion of ten attacks to one where indigestion is the cause.

In treatment we aim, first, to avert an impending attack; second, to put the system into such a condition as to render it less liable to one.

First, to avert an impending attack, the most efficient remedies are guarana and caffeine. Thirty grains of the powder, or a teaspoonful of a good fluid extract of guarana, or three or four grains of caffeine, should be given every twenty minutes or half hour till three doses are taken, unless the symptoms sooner show signs of abating. This is a point I wish to emphasize strongly; it is the key to their successful use, namely, to give full doses, and to give them in the very first threatenings of an attack.

Attention to some minor points may aid in averting an attack. When the patient has undergone any unusual fatigue or loss of sleep, anything which his own experience leads him to suspect will be followed by sick headache, I think, I feel quite sure, that a full dose of bromide of potassium, thirty to sixty grains at bed-time, will lessen his liability to it. This drug is useless, it seems to me, after the attack has begun. Under the same circumstances, if the patient is at all constipated, an aloetic laxative is serviceable. So trifling a matter as slight constipation appears at times to turn the scale under these circumstances.

Of more importance than to repel a single assault is it to so fortify the system that none will be made. How to do it must be left to the judgment of the physician in view of the needs of each individual case. Every drain and tax and irregularity that the patient has learned by experience invites an attack must be looked after and stopped. Loss of sleep and irregular hours must be prevented.

I wish to add a few words about the use of cannabis indica. In this drug I believe we have a remedy of great value in migraine. My attention was particularly called to it by an article in the *New York Medical Record* of December 8, 1877, by Dr. Seguin, who says that in doses of one-third to one half grain of good extract, thrice daily, continued for months, not less than three, it diminishes in a marked degree one's liability to these attacks. My experience has been quite limited, but I have had a few patients whose improvement from its use, after the failure of tonic treatment alone, has been very marked.

THE TREATMENT OF EPILEPSY.

By J. McF. GASTON, M.D., Atlanta, Ga.

From the *Trans. of the Ga. Med. Ass'n*, 1884:—The measures appropriate for the treatment of epilepsy demand special consideration, and if it be possible to free the therapeutics of this graver malady of the empiricism which has marked all the curative applications up to the present time, it will

be an advance of no mean importance. The vague notions of remedies for epilepsy which have taken possession of the minds of all classes have their origin in the utter uncertainty as to the nature of the affection and ignorance of the exact location of the disturbance.

Pathologists have, for the most part, referred the seat of disease to the brain, and that this organ is involved in the disorder there can be no doubt, yet the effect should not be confounded with the cause, in the derangement of the nervous system, when different portions of it are implicated, as in the general convulsions which are a prominent factor of this disease. It is true that congenital cases may have their origin in some cerebral defect, as other result from injuries to that organ, but by far the greater number of cases of epilepsy spring from some remote irritation which is propagated through the nervous system to the brain, and thence extends its morbid emanations through the cerebro-spinal nerves to the general organization.

With the lights of physiological and pathological experiments as to the mutual reactions of the different departments of the nervous distribution and reciprocal influence of the *peripheral* nerves and internal nerve centres, I am well assured that the seat of epilepsy pertains to the excito-dynamic element of the nervous system, and should not be referred directly either to the brain or the spinal cord as its origin. The multiplicity of the causes which produce this disturbance confirms this conviction; and occasional relief afforded by correcting the trouble which has been the source of the convulsions, serves to rid this position of the doubts that encircle other theories of the nature of epilepsy. The discovery of any source of irritation is of paramount importance, and by correcting the emanations from these to the nerve centres, there is a good prospect of effecting a cure of the disease.

"The existence of such spots may be known by the production of a fit by pressure or by means of strong galvanic excitation, or by cold, or by the application of a sponge wet with hot water, and these measures may be employed in searching for them in various parts of the body."

Independent of all local applications, and subsequent to the use of remedies for the correction of the special causes of epilepsy, a general treatment addressed to the nervous system is indicated, and for this object agents should be employed that may operate as alterants and tonics to corroborate the vital forces. My personal observation warrants the recommendation of the internal use of the spirits of turpentine uninterruptedly until some of its specific effects as an irritant of the mucous membranes or stranguary, may be presented. After this, strychnine in doses of one-fiftieth of a grain three or four times a day, with a gradual increase until one-sixteenth of a grain is reached, should be maintained for at least one month, and for a longer period, in cases of long standing. The cold shower-bath in connection with this latter remedy has been resorted to advantageously; and induced currents of electricity have proved useful. The entire armory of the *materia medica* becomes at last only different steps in attaining the end of correcting the deviation of the nerve centres from the normal performance of their functions.

The means, then, to be adopted for averting injurious impressions upon the nerve centres, and the measures to be used for the correction of their derangements, make up the whole prophylactic combination of hygiene, and include all therapeutic agency in the treatment of diseases, let the details be varied as they may. Rigid clinical observation should reveal the source of the disturbances in the physical organization, and the proper means of correcting them by regimen and medication.

AMNESIA WITH LOSS OF NOUNS.

The *Jour. of the Amer. Med. Ass'n*, quoting from Dr. W. H. BROADBENT, London, mentions a case characterized by the impossibility of saying nouns substantive, while other parts of speech were spoken freely and distinctively, which remained the same for more than five years. The patient was a gentleman aged 77 years at death.

MIRYACHIT.

Dr. W. A. HAMMOND, described, February 16 of this year, in the *N. Y. Medical Record*, a peculiar nervous disease, which is said to be endemic in the neighborhood of Yakutsk in Siberia (see *Reporter*, March 15, 1884, p. 348). It consists in the involuntary imitation of sudden movements and actions of others by those suffering from the disease. For instance, the captain of a ship suddenly clapped his hands before his face, and the steward, whose disease the captain knew, at once imitated the motion. Though the patient got very angry about it, he could not but submit to the force within him, which induced him to imitate any action he saw others do.

Dr. Beard (*Journ. Ment. and Nerv. Dis.*) mentioned a similar disease, which is endemic in Maine and New Hampshire. Here the so called "jumpers" at once execute any order which is given them in a loud voice and decided tone. They also repeat involuntarily spoken words.

In Number 14 of the *Hosp. Tül.*, Brochner remarks, that such cases have been formerly reported. See Daa (*Nat. Utrikling, Kristiania*, 1869, p. 150 ff.), where he speaks of the nervous disease which Pallas ascribes to the natives of Siberia. If such patients are tickled, suddenly accosted, or frightened in another manner, they fall into a kind of a rage, in which sometimes suicide is committed.

Dr. Rubl. Rückhard, whose article in the *Deutsche Med. Zeit.*, 55, 1884, we have to thank for this information, also mentions Dr. E. Metzger, according to whose report (*Globus B.* 42, p. 381), there exists in Java a disease known by the name of Sakit-latah. The patient imitates everything which anybody that succeeds in frightening him shows him how to do. First he does it offering resistance, later the imitation becomes purely mechanical.

Privy Councillor Mottenheimer, in Schwerin, wrote to the *Deutsche Med. Zeit.* that this neurosis (morbid compulsory imitation) is by no means limited to Siberia, but very prevalent amongst the nations of the Malay Archipelago, and is known by the same name as in Java, Sakit-latah, and is met with mainly in women of a nervous temperament. Such women have to imitate everything which healthy persons want them to do. They cannot help themselves—the imitation being compulsory. It seems, however, that the disease is not a continuous one, and that the patient must first be in a peculiar ecstatic condition ere the compulsory imitative desire presents itself. That this really is the case, and that the brain probably is the seat of the disease, may be imagined from the fact that when in this ecstatic condition the patients repeat with ease and fluency words in languages utterly unknown to them, and to them very difficult to pronounce. A medical work by W. A. von Rees, published some fifty years ago, gives a detailed description of the sakit-latah.

The editor of the *Deutsche Med. Zeitung* adds to the foregoing a remarkable observation of his own.

"A Pole, æt. 27, suffering from pneumonia in its worst form, was attacked during the acme of the disease by active delirium and convulsions. Called to see him, I first quieted him with a hypodermic injection of morphia, after which the convulsions ceased for a time. During this pause I asked him a few questions, when to my surprise, instead of replying, he repeated, word for word, what I had said, though his mind did not seem affected. The affair astonished me, having never made such an observation, except in hypnotic individuals, and I determined to test him further. I first spoke some words, then whole sentences, in all the languages known by me. He repeated every word plainly and in the same rhythm as I had employed—now slow, then fast. The patient was a very illiterate man, nevertheless he repeated the beginning of the *Odyssey* in Greek, the commencement of the Bible in Hebrew, Horace's *Iugiter Vite* in Latin, and some English, Italian, Spanish, Danish, and German sentences. Notwithstanding the grave situation of the patient, the whole affair had something comical about it.

"To my regret, I had no further opportunity of experimenting with the patient, for he fell into a deep sleep after the morphia injection, and I had

to leave town an hour later. The next morning I saw the patient once more; he was perfectly conscious, but in the beginning of the agony. The convulsions had ceased, but all attempts on my side to induce him to evince the same compulsory imitation were in vain. The same evening he died."—*Ed. Med. and Surg. Reporter*, Oct. 11, 1884.

INFLUENCE OF DIET ON SICK-HEADACHE.

LAUDER BRUNTON in the *Practitioner*, quoted by the *Cincinnati Lancet and Clinic*, says:—It is no new observation that a diet largely vegetarian will cure, or at least greatly relieve the pain, and render less frequent the attacks of megrim.

HYPERÆSTHESIA.

Dr. JAMES T. SEARCY, of Tuscaloosa, Ala., in a paper published in the *Trans. of the Med. Ass'n of the State of Alabama*, 1884, reaches the following conclusions:—(1) Over brain work, worry, pain, and drugs produce hyperæsthesia. Any one of these causes alone can produce more or less hyperæsthesia. In aggravated cases we most often find two or more of them combined. (2) Hyperæsthesia breeds hyperæsthesia. Congenital hyperæsthesia has overlapped so much, and has been increased so much by the causes mentioned, especially by the general use in modern times of the drugs that produce it, that it is one of the most common maladies of the day. Hygienic instruction is very much needed in this particular.

THE DIAGNOSIS OF SCIATICA.

A diagnostic point in sciatica is given by DE BEURMANN which we have never seen alluded to. The patient lying on his back with the muscles of the leg and back relaxed, the affected leg is raised while in complete extension and flexed upon the abdomen. This causes marked pain in the sciatic, especially intense at the sciatic notch, and the movement is resisted. If, then, the limb be lowered, and while the leg is flexed on the thigh the latter is again carried up on to the pelvis, no pain will be felt. This phenomenon depends on the fact, verified by De Beurmann in experiments on the cadaver, that great tension of the sciatic is exerted by flexion of the thigh when the leg is extended, but almost none when the leg is flexed. In other words, in affections other than sciatica, the movements given to the coxo-femoral articulation will be equally painful whether the leg is extended or flexed on the thigh.—*Boston Med. and Surg. Jour.*

DISEASES OF THE ORGANS OF RESPIRATION.

APEX PNEUMONIA.

By WILLIAM PEPPER, M.D., LL.D., Provost and Prof. of Theory and Practice of Med. in the Univ. of Penn.

From the *Buffalo Med. Jour.*, Oct., 1884:—There are peculiarities about apex pneumonia. It is far more common in children than in adults, and this occasionally leads to pneumonia in children being overlooked, from the failure to study the whole lung and the restriction of our attention more particularly to those points in which we are more apt to find consolidation in the adult. Not rarely little children will have true croupous pneumonia, running through its stages and terminating just as we see it in the adult, but limited throughout to the upper portion of one lung. There appear to be closer cere-

bral sympathies with this type of pneumonia than with the common basic pneumonia, and that partly because the nervous system of the child is extremely susceptible and partly from the reason that I have mentioned, there is apt to be developed cerebral symptoms of a marked type, so that this is known as the cerebral form of pneumonia, and these nervous symptoms are apt to still further obscure the recognition of the inflammation of the lung, hence these cases are apt to be treated as cases of tubercular meningitis, or simple meningitis, and the pulmonary condition not recognized. In children with nervous symptoms, if cough or chest pain is noticed the chest should be examined with extreme care, front and back, from top to bottom. In these cases cerebral symptoms of the most alarming character may be present and pass away as the pneumonia diminishes.

Apex pneumonia is more common in young adults than it is either in children or mature people. It is apt to occur in those disposed to phthisis. There is trouble in securing complete resolution in such cases, which are apt to run into a sub-acute form and eventually develop into phthisis.

Again, apex pneumonia is met with under the influence of constitutional disturbances; thus, when pneumonia appears as a complication of malarial fever, I have often seen it involve the apex. In typhoid fever I have seen the inflammation involve the apex more frequently than is the case in frank, idiopathic pneumonia. [The pneumonia of alcoholism is apt to be of the apex variety.—ED.]

These are the three most important peculiarities of apex pneumonia: (1) Its occurrence in a somewhat obscure form in children, being associated with marked cerebral symptoms; (2) Its disposition to be followed by phthisis; and (3) Its existence as a complication of some general specific disease.

I cannot say that syphilitic pneumonia, by which term I mean something different from pneumonia in the syphilitic,—for those who have constitutional syphilis may have a frank pneumonia in the same way as one free from that taint,—syphilitic pneumonia, which is a syphilitic affection of the lungs with the infiltration of the tissue of the lungs with a special plasma, rich in epithelial cells, and giving rise to hepatization, I cannot say that this syphilitic pneumonia especially involves the apex. It is as likely to affect the lower as the upper lobes.

We have all been taught, by sad experience, to be careful during the convalescence of certain specific diseases, notably typhoid fever, but I fear that we are not nearly so careful in the management of convalescence from local affections, particularly those of the chest. It is one thing for the temperature to fall to normal, the pulse to come down and the breathing become easy, and quite another thing for the local lesions to be entirely removed. Under such circumstances the patient, if allowed to expose himself, is in danger of a relapse. Even if a relapse does not take place, something which is worse may develop. If a slight trace of inflammatory process be overlooked and the patient be allowed to return to his ordinary occupation, it will remain and slowly take on a chronic degenerative change. The great majority of chronic troubles result from imperfectly cured local affections. This is pre-eminently true in regard to catarrhal pneumonia. It is true to a less degree as regards croupous pneumonia, and it is also true in regard to pleurisy. The criterion by which we are to judge when it is proper for the patient to rise, take exercise and expose himself, is solely the result of physical examination, showing that all trace of local disease has passed away. We cannot be governed by the general symptoms, for these may subside in a most satisfactory manner, and yet the patient be far from being entirely cured. The care which has been insisted on in the acute stage should never be relaxed until the *physical examination* shows that all local change has passed away, unless, after pursuing a judicious course, and keeping up this care for a reasonable time, we find that the patient, in consequence of some constitutional defect or peculiarity, is passing into a chronic stage. Under such circumstances further confinement, instead of being a benefit, would probably injure the constitution. The patient is then to be treated as one with a serious chronic disease, and although he is allowed to go about, it is under a most rigid hygienic regimen.

MURIATE OF COCAINE. •

Dr. F. H. Bosworth of New York, in the *Medical Record*, Nov. 15, 1884, directs attention to a *new* therapeutic use of this remedy, based on the effect which it produces when applied locally to the nasal mucous membrane—namely—very notable contraction in the venous sinuses, so rigid that all the blood which they may have contained is absolutely expelled. Entire depletion of the sinuses of the whole nasal cavity can be accomplished in about three minutes, the production of anæsthesia requiring, as a rule, a longer time.

Dr. Bosworth, therefore, regards the drug as one especially valuable in the treatment of "*hypertrophy of the nasal mucous membrane*," "*acute coryza*," and in spray or snuff, "*nasal polypi*," "*hay fever*," and believes that it will be efficient to control the painful and distressing reaction which results from the use of caustics or instruments in the nasal cavity, to facilitate ocular inspection of the cavities, to eliminate largely from minor operations in the nasal cavities, troublesome hemorrhage, and to control epistaxis from whatever cause.

THE COMMUNICABILITY OF PHTHISIS.

Notwithstanding the immense amount that has been written and published concerning the communicability of phthisis since Dr. Koch first announced his discovery of the bacillus, we seem to be no nearer a unanimity of opinion on the subject than we were a year ago. The whole question seems to be about as follows: That for the disease to develop there must exist some constitutional peculiarities, the intricate nature of which we have not yet grasped. Dr. Alfred G. Barrs, who contributes an article to the *Lancet*, August 23, 1884, seems to hit the nail on the head in the following conclusions:

1. The tubercle bacillus is constantly found in all lesions of a tubercular nature, and in all cases of pulmonary phthisis in the human subject.

2. So far as the communicability of tuberculosis in animals is concerned, this is clearly proved by inoculation experiments. Whether it is so without antecedent transmission there is very little evidence to show.

3. The great prevalence of phthisis amongst those of certain occupations, and the comparative rarity with which those presenting caseous changes in the lungs die by means of a general infection, tend to show that certain predisposing causes are necessary for the production of phthisis—some more definite condition than a mere obliquity of construction, such as we mean by constitutional tendency. The bacillus is not in this case the real and primary cause of the disease, but by its constant presence may determine a wide distribution of the lesion and a fatal result.

4. Although the discovery and isolation of Koch's bacillus, and the inoculation experiments upon animals, make the direct infection of individuals with tuberculous matter possible under certain conditions, these conditions are not established by our present mode of life.

5. The clinical evidence of direct infection from man to man is at present of a quite untrustworthy nature. I need scarcely add that the want of proof of direct contagion in no way militates against the view that pulmonary phthisis is an infectious disorder—that is, due to the introduction of an infective particle from without.—*Med. and Surg. Reporter*, Sept. 27, 1884.

THE TREATMENT OF PHTHISIS PULMONALIS BY THE MULLEIN PLANT.

Dr. QUINLAN, Dublin, has treated 127 cases with the mullein leaf solely, with one trifling exception. Previous to commencing treatment, each patient was carefully weighed, and this weighing was repeated every week,

with great attention to uniformity of conditions as to time, clothing, meals, etc. The symptoms and physical signs of each patient was accurately noted, and the results tabulated. This has led to the following conclusions:

1. In the early and pretubercular stage of pulmonary consumption mullein has a weight-increasing and curative power greater than that of cod-liver oil, and nearly equal to that of Russian koumiss. It has been experimentally proved that this is due to the mullein, inasmuch as the milk alone fails to accomplish the same results.

2. In cases in which tubercles are well established, or cavities exist, the mullein has a great power in relieving cough. In fact, such a patient taking it requires no cough mixture at all, and every practical physician will recognize the great boon which this power confers on the phthisical sufferers, whose stomachs are often hardly able to receive alimentary sustenance. Indeed, the mullein milk is looked on by them more as a food than as a medicine. In persons of very feeble digestion heaviness is often experienced after so much milk. This, however, can be completely relieved by allowing the boiled mullein milk to cool down to 50° C., and adding a teaspoonful of pancreatic fluid. It should then be left under cover for ten minutes.

3. Phthisical diarrhoea is completely obviated by the mullein. This is, no doubt, aided by the milk, but also occurs when the mullein is prepared with water.

4. All the symptoms of pulmonary consumption can be combated by the mullein, except colligative perspirations. Over them mullein had no influence, and the hypodermic injection of the atropia sulphate was used. This is the sole exception in the mullein treatment.

5. Mullein smoke applied directly to the respiratory passages has a great effect in relieving irritation and spasmodic coughs, and coughs in general. The dried leaves of the mullein are broken up fine, and are smoked in an ordinary pipe, either pure or mixed with a little tobacco to flavor them. Very elegant cigarettes are prepared for this purpose. These are of two kinds: (1) mullein, flavored with a little Turkish tobacco; (2) for those to whom tobacco is disagreeable, mullein, flavored with a little oil of cascarrilla.—*Jour. Amer. Med. Ass'n.*, Oct. 11, 1884.

THE THREE TONSILS—SOME PRACTICAL SUGGESTIONS IN REGARD TO THEIR STRUCTURE, FUNCTION, AND DISEASES.

By F. H. BOSWORTH, M.D., Prof. of Diseases of the Throat in Bellevue Hosp. Med. Coll., New York.

From *The Med. Record*, October 4, 1884.—By the three tonsils it is to be understood that I refer to the two glandular masses found between the pillars of the fauces, and to which the name tonsil is usually applied, and to that mass of glands which is found in the vault of the pharynx, and which was first recognized and described by William Hunter, and subsequently, and to a fuller extent, by Luschka, and to which the name of Luschka's tonsil has been given, and also that of the *pharyngeal tonsil*. These three masses being so nearly identical in their structure, function, and diseases, I think that they may be properly designated as the three tonsils. The masses between the pillars of the fauces will be spoken of as the faucial tonsils, while that structure at the vault of the pharynx will be designated as the pharyngeal tonsil.

After speaking of several affections of these tonsils, Dr. Bosworth makes the following remarks on

Quinsy.—I have already alluded to quinsy as a disease of the cellular tissue of the fauces rather than of the tonsil. Phlegmonous or suppurative disease does not occur in glandular structures, but belongs rather to areolar tissue. It is true that we occasionally meet with small abscesses in the glands of the tonsils or in other portions of the mucous membranes of the air-passages, but they are small abscesses, as a rule, which result from the occlusion of a gland, and are not phlegmonous in character. For three years I have entertained

the view that quinsy was not a disease of the tonsil, and in that time have carefully watched and examined the cases which have come under my observation, and I do not recall a single instance in which I have not been able to demonstrate conclusively to my students, or others who have been present at my clinic, that the tonsil was not involved directly in the inflammatory process. The tonsil oftentimes presents a red and angry appearance, but this is always secondary, and due to the fact of its nearness to the phlegmon. Again, the tonsil is occasionally very prominent, being lifted from its bed, and at times projecting far toward the opposite side of the fauces. This is due to the phlegmon occurring behind it. The disease I believe to be an acute cellulitis of the areolar tissue of the fauces. Furthermore, the cause of quinsy I believe to be in very many cases the rheumatic habit. This view is an old one, and has been maintained by many writers on the subject.

For three years I have treated all my cases of quinsy as cases of phlegmonous inflammation of the submucous cellular tissues, and as probably due to the rheumatic habit.

If the effect of remedies is to be regarded as any evidence, the connection between the two diseases is still further evidenced by the fact that so large a number of cases of quinsy were aborted by the early administration of the salicylates. These cases were mostly seen at my clinic at the out-door department of Bellevue Hospital. Many of them came several days after the onset of the attack. Of those whom I saw within the first thirty-six hours, the attack was aborted by the administration of the salicylates in a majority of cases. In those cases in which the attack was not aborted, suppuration seemed to very much hastened. The form in which the remedy was administered was as follows:

R. Sodæ salicylatis, ʒ iij; aquæ, ʒ vj. M. Sig.—One tablespoonful every two hours.

Last spring Dr. Barker suggested to me the value of bicarbonate of soda locally applied. The soda is to be taken up on the moistened finger and plastered over the inflamed surface every ten or fifteen minutes. I have since then made use of this remedy in connection with the salicylates, and in one or two cases its action has been most gratifying. I am not prepared, however, to abandon the use of salicylates in favor of the soda. In several cases also in which the quinsy habit has existed I have given the above prescription, with directions to commence its use immediately upon experiencing any symptoms of these attacks. These were cases in private practice. In no one of these cases has there been an attack of the disease.

THE TREATMENT OF ACUTE LARYNGEAL CATARRH.

Acute laryngeal catarrh, the so-called false croup, is an affection which, although not immediately dangerous in itself, is attended by symptoms which are apt to cause a very considerable degree of uneasiness on the part both of the child and its parents. In a recent article in the *Medical Times*, Dr. J. Burney Yeo extols the value, in the early stage, of small doses of opium or morphine. By combining them with small doses of ipecac or tartar emetic, we secure both a relief of the irritation and cough, and the emollient action of the free secretion of mucus. Four or five grains of Dover's powder, repeated in five or six hours, usually relieve the tickling cough, the soreness of the larynx, the difficulty in swallowing and the hoarseness or impairment of voice. Warm alkaline drinks act as diluents on the tenacious and adhesive mucus which often hangs about the glottis and upper part of the larynx, and the following mixture will be found to answer quite well for this purpose: R. Sodii bi-carbonatis, ʒ j; sodii chloridi, gr. xvij; spts. chloroformi, ℥. xxx; aquæ anisi, ʒ vi. M.

Two tablespoonfuls of this mixture may be taken every two or three hours with two tablespoonfuls of hot water or milk. Poultices should be applied to the neck over the larynx. Some prefer cold compresses which are equally beneficial. The inhalation of the steam from hot infusion of herbs of a demulcent character, is grateful and beneficial.—*Medical Age*.

COMPRESSED AND RAREFIED AIR, AS A SUBSTITUTE FOR CHANGE OF CLIMATE, IN THE TREATMENT OF PULMONARY DISEASES.

By J. SOLIS-COHEN, M.D., Hon. Prof. Laryngology, Jeff. Med. Coll., Philadelphia.

From the *N. Y. Med. Jour.*, Oct. 18, 1884:—The great desideratum in *exiling poitirinaires* is to secure to them an opportunity of being in the open air, so that their lungs shall have a proper respiratory diet. Such pabulum, taken naturally, is far superior to any artificial administration. But, for the benefit of individuals whose lack of money or whose domestic duties preclude their resort to a temperate climate, there is a substitute in periodic inhalations of air subjected to modifications of pressure. In many cases fully as much good can be secured by this treatment as by change of climate, and in a few much more; though, in the vast majority of cases in which change of climate is advisable, it is but a poor substitute. Its efficacy, however, has never been appreciated in the United States, although fully recognized in Europe, especially on the continent.

The immediate effect of *inhaling compressed air* is to dilate the lungs and thorax to a greater extent than can be accomplished by the deepest possible voluntary inspiration at the ordinary pressure. The inspiratory portion of the respiratory act is thus greatly facilitated. This method of treatment is indicated in early phthisis, in chronic bronchitis, in the partial collapse of lung sometimes following pneumonias, and, in fact, in all cases in which it is desirable to augment the vital capacity of the lungs, except in those instances where there exists a strong disposition to hæmorrhage. As the increased pressure on the intrathoracic organs increases the general intravascular pressure, it is easy to understand that such treatment is imprudent in individuals disposed to hæmoptysis, hæmatemesis, epistaxis, hæmorrhoids, or other blood-loss.

The immediate effect of *expiration into compressed air* is to impede that portion of the respiratory act. This will tend to dilate the air-cells and rectify collapsed lung by backward pressure, so to speak, thus accomplishing the same results as inspiration of compressed air. For weak patients the method is unsuitable. Tendency to hæmorrhage is a contra-indication for the process.

The immediate effect of *inspirations of rarefied air* is by diffusion to tend to diminish the pressure of the air in the lungs. The method acts as a gymnastic exercise for the muscles of respiration. The special therapeutic effect approaches that produced by residence at high latitudes, for which in certain cases it may prove an acceptable substitute.

The immediate effect of *expirations into rarefied air* is to exhaust a portion of the residual air in the lungs and thus favor the collapse of the distended air-cells. The indication for the practice of the method is found in asthma and in pulmonary emphysema. And here I believe the home treatment by apparatus is often more efficacious than change of climate.

HERPES LARYNGIS.

By S. H. CHAPMAN, M.D., New Haven, Conn.

In a paper published in the *N. Y. Med. Jour.*, Oct. 18, 1884, Dr. Chapman reaches the following conclusions drawn from six cases, although it must be distinctly understood that any conclusions from so few cases must always be subject to modification.

1. There exists such a disease of the larynx as herpes.
2. Its character is that of a neurosis.
3. It is closely allied to herpes of the pharynx and other mucous membranes.
4. It differs from the other forms only on account of the peculiar microscopic anatomy of the larynx.

5. It is peculiarly a disease of malarious districts, and one of the eccentric developments of malaria.

6. It stimulates tubercular inflammation of the epiglottis. The differential diagnosis, however, is easy. It is based upon the extreme rapidity of development, the absence of fever, the history of malarial affections, the previous or simultaneous development of herpetic eruption elsewhere, and the rapid disappearance of the disease.

7. Its seat is usually the posterior surface of the epiglottis.

8. The nervous system is always profoundly affected.

HEMOPTYSIS.

Although a multitude of drugs are recommended, and not a few almost regarded as specifics, it must be admitted that the profession has at command but a few preparations that have unquestioned influence to control pulmonary bleeding. Ergotine and the fluid extract of ergot have been mentioned; oil of turpentine given by mouth or rectum, exhibits positive action in hemoptysis of phthisis. But it can not be too forcibly urged that the most important condition requiring treatment is the terror manifested by the patient, so alarming and distressing to the friends, which in turn tends to further alarm the patient. The administration of opium in some of its forms is clearly indicated to calm the excited brain and reduce the throbbing heart. Give it hypodermically, that its physical effects may be quickly produced. The result is magical. The patient's actions and countenance are speedily calmed, the bleeding stops, the much needed refreshing sleep is obtained, and the over-estimated danger averted.—*Physician and Surgeon.*

DISEASES OF THE ORGANS OF CIRCULATION.

MEDICINAL TREATMENT OF ANEURYSM.

By J. A. ROBINSON, of Chicago, Ill.

From the *Med. and Surg. Reporter*, Oct. 25, 1884:—Treatment of internal aneurysms by the administration of iodide of potassium is conceded by Flint and Bromwell, and it is insisted on by Balfour, that the iodide of potassium is the only drug which offers any hope of cure, and in every case it will relieve distressing symptoms. This author says: "Of all the various modes of treating internal aneurysm there is not one, hitherto mentioned, which is not attended with considerable risk or danger, except Mr. Tuffnell's plan of perfect rest, while the advantage to be derived from some of them are, to say the least, very problematical."

Treatment by the iodide of potassium is perfectly safe and free from all risk, and it is equally certain to afford relief, although relief is not always to be got instantaneously. It relieves the pain and other symptoms of aneurysms, more rapidly and more effectually than any other treatment, apart even from the powerful agency of the recumbent posture. The relief to the pain and other symptoms is so great, and so speedily obtained, usually from the action of the drug alone, that it is often difficult to get the patient to submit to any restrictions. I have employed this method of treatment during the last eight years, in a very considerable number of cases, with unvarying success, so far as the relief to symptoms is concerned, and with such favorable results as to retard the further progress of the case, and even in some cases promoting an apparent cure. Balfour relates the history of twelve cases treated by this method with the following results. The symptoms, such as pain, dyspnoea, etc., were relieved in every case. The physical signs of aneurysm were diminished in seven cases; pulsation of the tumor ceased in two cases, diminished in

four, and was apparent from the commencement in six. The aneurysmal tumor disappeared in three cases, and diminished in five. The bruit disappeared in two cases, and diminished in two cases, but never existed in two cases. Five of the patients were so relieved that they could work, four were discharged at their request, feeling well, one patient absconded, and the result of treatment is not known. Five cases were termed cured, and seven were relieved. One of the twelve cases referred to was an aneurysm of the innominate artery, which was cured, and Balfour claimed to have cured several cases of aneurysm of the artery. While the writer does not believe he is justified in being as enthusiastic in praises of the iodide of potassium treatment as Balfour, he believes he is justified in relating the following case, and giving iodide of potassium the credit of prolonging the patient's life and making his days comparatively comfortable.

John H. C., aged 40, a blacksmith, was first seen March, 1883. [Here is given the clinical history.] The patient was ordered to lie in bed continuously, and was given fifteen grains of iodide of potassium three times daily, gradually increasing the dose until signs of iodism appeared. It was truly remarkable how soon after this plan of treatment was inaugurated, the patient expressed himself free from pain and the distressing symptoms from which he had suffered. He persevered this way until May, when he said he was so well, and weary of the bed, he would like to sit up. Leave was granted. During several months he took the iodide of potassium without any disturbing effects, but finally complained of symptoms of iodism. He was permitted to discontinue its use. From this date the patient grew worse. He rapidly emaciated, dyspnoea and dysphagia increased, and finally he died of asthenia, July 19, 1884.

Autopsy.—On opening the thorax a large aneurysmal tumor was seen behind the sternum, about five inches in diameter.

DIAGNOSIS OF VALVULAR DISEASE.

FRAENTZEL lays down the following axioms in the *Charité Annalen*, ix:

1. Render no definite opinion on a case of valvular disease *sub finem vitae* unless the diagnosis has been before definitely made out.
2. Valvular lesion of the right heart, and especially from endo-carditis, is of very rare occurrence in extra-uterine life.
3. In the diagnosis of valvular disease the consideration of the heart-murmurs should always be of secondary weight and importance.—*Weekly Med. Review*, Sept., 1884.

COMPLETE DEXICORDIA.

Dr. ROBERT H. BABCOCK, of Chicago, Ill., in a paper published in the *Med. News*, Oct. 25, 1884, reports a case of complete transposition of the heart to the right side, without any evidence of transposition of any other organ. There was no history of pleurisy. The patient was a man thirty-two years of age. The case was reported because of its diagnostic and pathological, not therapeutic interest.

INTERMITTENT PULSE.

From the *Medical Age*, Sept. 25, 1884:—Dr. B. W. RICHARDSON, in a recent number of the *Asclepiad*, arrives at the conclusion that intermittency of the pulse is a more common symptom than it formerly was, and that the explanation is to be found in the increased emotional strain and excitement incident, to our present mode of living, the affection being due to "nervous exhaustion of the vital nervous system." "In itself, when not present in an exaggerated degree, intermittency of the pulse is often less dangerous than

it seems. It does not, as might be feared, carry with it the necessary idea of sudden dissolution from heart disease, for, as I have elsewhere shown, the heart is the regulator, not the prime mover, of the circulation. The harmlessness of the symptom in its moderate development is shown by the fact of its common occurrence after middle age, and by the long duration of life in many of those who present it. At the same time the symptom has its significance. Occurring in infancy, it is an important indication of serious nervous derangement. Occurring in young adults, it has the same meaning, and tells the story of commencing failure of power. Occurring suddenly after any great event, which has told upon the mind, it may be a sign of very serious import." By far the greater number of persons whose pulse exhibits intermittency are unaware of the fact, and only in cases where the intermittent period extends over as many as five normal heart-beats, or recurs often in a minute, is consciousness of its occurrence produced, and such cases proceed along a certain course to death when the symptom is persistently present. A most important point, on which Dr. Richardson insists most impressively, and which has a direct practical bearing, is that persons with intermittent pulse offer less resistance to disease, owing to impairment of nervous energy, of which the pulse-change is characteristic; and also they possess diminished power of recovering from surgical operations, as compared with individuals of normal circulation, and for the same reason, as our author tersely puts it. The phenomenon has its general meaning, both for the physician and the surgeon. It has also its particular meaning, since it may be raised into fatal consequence by disorders which need not, in its absence, prove fatal.

Intermittent pulse in children may pass away, but it is never got rid of when appearing for the first time at or past middle age, although it is not incompatible with the attainment of even extreme old age. The symptom may be inherited; a case is quoted of an infant in whom it was recognized an hour after birth; and now, 25 years after, the intermittency always appears under great strain or during depression.

In children especially, is it essential to avoid all undue intellectual and emotional strain, and to encourage the taking of a plentiful amount of sleep. In adults, too, equal attention should be paid to remedying impressions derived from untoward events, and to regulating diet and promoting repose.

HÆMOPHILIA.

By W. H. TAYLOR, M.D., Washington, D. C.

From the *Maryland Med. Jour.*, Oct. 4, 1884:—Hæmophilia, hemorrhagic diathesis or the bleeding disease, as it is called by different writers, is a diseased condition or predisposition or defect of the system, that is hereditary, constitutional and generally congenital and continuous throughout life.

Quain's Dictionary, page 568, says men are more liable to the disease than women, in the proportion of 11 to 1, and that the disease is never well marked in women; but that in women of this disposition flooding and profuse menstruation are common; hæmaturia is rare; the disease is hereditary.

Ashhurst's Encyclopædia of International Surgery, vol. 3d, p. 254, says that the hemorrhagic diathesis is manifested in early life, and that it is rare or uncommon for it to begin in middle life, and that its congenital origin and habitual nature is characteristic, and that the disease originates in vice of structure.

Hooper's Vade Mecum, vol. 1, page 252, says that hæmophilia is twice as common in Germany as in England, and that in France and North America it is half as frequent as in England, and quoting Grandidier, says that of 308 cases recorded by him, hemorrhage took place in 152 from the nose; in 38, from the gums; in 35, from the intestines; in 17, from the respiratory tract; in 16, from the urinary; in 14, from the stomach; in 10, from the female genitalia; in 6, from the tongue; in 5, from the ear; in 4, from lips and fingers; in 4, from scalp, and in 7, from other parts.

Gross' Surgery, vol. 11, page 714, says that in individuals subject to hæmophilia there is a strong tendency to an inordinate discharge of blood from slight traumatic causes, and that the blood oozes from a wound as water oozes from a sponge, not in jets or in a stream as from an artery or from a large vein, and that the blood is neither bright nor black, but between the two, and that it partially coagulates. He gives as the causes of hæmophilia, imperfect organization of the capillaries, insufficient nerve power and non-coagulability of the blood.

Tanner, in *Index of Diseases*, page 180, says in speaking of this disease, that hemorrhage may take place from the umbilicus two or three days after birth.

Dr. J. Wickham Legg, physician to St. Bartholomew's Hospital, London, in his *Treatise on Hæmophilia*, gives a very interesting history of the disease. He says the first mention he finds of hæmophilia is by an Arabic writer in the 11th or 12th century, named Albucasis, who lived in Spain. Legg draws particular attention to swelling of the large joints in hæmophilia; he considers this symptom more characteristic of the disease than hemorrhage. Other writers on the subject do not lay so much stress upon this symptom. He says the disease is hereditary; that women never present a typical case of the disease; that it is more common in Germany than in any other country.

As to the etiology and pathology of hæmophilia, little or nothing is positively known; that the cause is hereditary predisposition, and the pathological condition a defect or disease of the circulatory system, seems to be the most generally received opinion.

After relating four cases, the author of the paper continues:—Hartshorne, in the article hæmophilia, *Reynolds' System of Medicine*, says it is generally stated that women subjects of hæmophilia are not predisposed to hemorrhage in labor or at the menstrual period, but that he cannot think this statement correct, two German pathologists, Borner and Kehrer, having brought to light facts showing that dangerous hemorrhages do occur in women of such families. There are so many different statements in regard to this matter that I am inclined to believe hæmophilic women are not more liable to flooding than others, unless an abortion or labor occurs at a time when spontaneous hemorrhage is about to take place.

There is a peculiarity in hæmophilia noticed by Wickham Legg and other writers on the subject, that is a tendency to bleed at night. This was the case with my patients.

DISEASES OF THE ORGANS OF DIGESTION.

THE DIETETIC TREATMENT OF DYSPEPSIA.

By AUSTIN FLINT, M.D., LL.D., Prof. Principles and Practice Med. and Clin. Med., Bell. Hosp. Med. Coll., New York.

From the *N. Y. Med. Jour.*, Nov. 22, 1884:—We will assume the diagnosis to have been made positive. I am accustomed to ask the patient, "Do you regulate your diet?" The answer is generally in the affirmative, and it is often given promptly and emphatically. Then I say: "This is a good reason for your having dyspepsia; I never knew a dyspeptic get well who undertook to regulate diet." "What system of diet do you advise?" is a question which is naturally asked. The answer is, that I have no rigid system of diet to advise, but that food must be taken in sufficient quantity and sufficiently varied to satisfy the requirements of assimilation and nutrition, and that this is not to be done by adopting any fixed rules regulating the amount and the kinds of food. "How am I to be guided?" is a question which naturally follows. The reply is: "Not by theoretical views of alimentation and diges-

tion, no matter how much they may appear to be in accord with physiological and pathological doctrines, but by the appetite, the palate, and by common sense."

"But," the patient will be likely to say, "am I not to be guided by my own experience, and avoid articles of food which I have found to disagree with my digestion?" The answer is, that personal experience in dietetics is extremely fallacious. As a rule, articles which agree with most persons do not disagree with any, except from casual or accidental circumstances, and the expectation, in the mind of the patient, that they will disagree. Without denying that there are dietetic idiosyncrasies, they are vastly fewer than is generally supposed, and, in general, it is fair to consider supposed idiosyncrasies as purely fanciful.

Suffice it to say that the maxims which have been enumerated as causative of dyspepsia are to be reversed in pursuing the plan of treatment which it is the purpose of this paper to submit. The instructions, abbreviated, will then be as follows:

Do not adopt the rule of eating only at stated periods—twice or thrice daily. Be governed in this respect by appetite; eat whenever there is a desire for food. Eat in the evening, or at bedtime, if food is desired. Insomnia is often attributable to hunger. In the choice of articles of diet, be distrustful of past personal experience, and consider it to be a trustworthy rule that those articles will be most likely to be digested without inconvenience which are most acceptable to the palate. As far as practicable, let the articles of diet be made acceptable by good cooking; as a rule, the better articles of food are cooked, the greater the comfort during digestion. Never leave the table with an unsatisfied appetite. Be in no haste to suppose that you are separated from the rest of mankind by dietetic idiosyncrasies, and be distrustful of the dogma that another man's meat is a poison to you. Do not undertake to estimate the amount of food which you take. In this respect different persons differ very widely, and there is no fixed standard of quantity which is not to be exceeded. Take animal and vegetable articles of diet in relative proportions as indicated by instinct. In the quantity of drink, follow Nature's indication, namely, thirst. Experience shows abundantly that, with a view to comfortable digestion, there need be no restriction in the ingestion of fluids.

The ground which I take is, that the diet which in healthy subjects is conducive to the preservation of health is the diet which is desirable in cases of dyspepsia.

HÆMATEMESIS AND MELÆNA.

By C. B. VAN ZANT, M.D., Cincinnati, O.

From the *Cincinnati Lancet and Clinic*, Oct. 18, 1884:—The following case is of interest from the obscurity attaching to the cause of the most notable symptoms, the vomiting of blood and its discharge per rectum.

Rosa S., æt. 18, of German parentage, unusually large for her age and well nourished, though quite anæmic and of flabby muscular tone. Has always been well with the exception of having for some months past been troubled with unpleasant sensations in the stomach, at times amounting to actual distress, though never to severe pain. The distress was invariably relieved by the ingestion of food. At times vomiting occurred, the ejecta being at first mucous, and then, bilious in character. Headache always accompanied the vomiting and was relieved by it. The appetite has always been fair, the bowels regular. Patient has no cough. The menstrual flow has always been regular and sufficient in quantity. No eruptions or ecchymoses mark the surface.

On the evening of August 16th, after uneasy gastric sensations, she was seized with a sudden hæmatemesis, vomiting a large quantity of fluid, containing about a pint of blood, dark in color. Four hours afterward she had another attack of hæmatemesis, amounting to probably six ounces.

The history of the case is continued, and Aug. 28th the record is that the pulse was 96, and Sept. 6 that the patient sat up for the first time.

Several questions in the matter of diagnosis present themselves.

First.—What is the cause of the hemorrhage?

Second.—Was there a distinct gastrorrhagia and enterorrhagia, or was the entire hemorrhage from a single source? If the latter, where is it situated? Not taking into account the many rare causes of gastrorrhagia, the hemorrhage might result from.

(a.) A gastric carcinoma. (b.) Cirrhosis of the liver, pylethrombosis or other interference with the portal circulation. (c.) A vicarious menstruation. (d.) Scorbutus or purpura. (e.) Aneurism, opening into the œsophagus. (f.) Hemorrhage from the lungs. (g.) Gastric ulcer.

a. Carcinoma is excluded by the youth of the patient; the absence of any tumor; of pain, or cachexia.

b. Cirrhosis may be safely excluded by the youth of the patient and the absence of any history of alcoholic indulgence. Pylethrombosis is excluded by the absence of all the symptoms which would follow mechanical obstruction of portal circulation.

c. As vicarious menstruation only occurs in amenorrhœa, it is excluded in this case, where the menstrual flow is regular.

d. None of the causes or distinctive evidences of scorbutus or purpura are present.

e. The patient's age is against aneurysm. No history exists of pain in the chest, periodic dyspnoea, dysphagia, inequality of the pupils, spasmodic or paralytic affections of the larynx or any of the more common symptoms of thoracic aneurism.

f. The blood was distinctly vomited; was dark in color, and mixed with gastric contents. Although the reaction was not tested, pulmonary hemorrhage may be excluded.

Nothing is left to fall back upon except gastric ulcer. The patient's sex, age and feebleness of constitution favor a diagnosis of this trouble. The indefinite distress referred to the stomach for some months prior to the hemorrhage, while not like the more or less constant, gnawing pain of ulcer, is still of some value in the formation of an opinion. The relief of pain which always follows the ingestion of food in this case, is not the history of ulcer. From the fact, however, that the earliest vomiting of blood preceded, by at least 21 hours, the passage of blood per rectum, and that the blood passed from the bowels was black, tarry and in clots (unlike blood from the lower part of the small intestine or the large), we judge that the hemorrhage was all from this one source; part of the blood, poured into the stomach, being vomited and part passing into the bowels. The blood vomited and that passed by the rectum, as nearly as could be measured, amounted to about 45 $\frac{3}{4}$.

IRRIGATION OF THE STOMACH FOR CHRONIC GASTRITIS.

Dr. SAMUEL T. KING, of New York, reports in the *Medical Record*, Nov. 15, 1884, six cases of chronic gastritis (gastric catarrh) which were successfully treated by lavage, or irrigation of the stomach with water at 110° to 120° F., containing borax in the proportion of a teaspoonful to two or three quarts. The method is as follows: Instruct the patient to take no breakfast. At about 10 a.m. introduce a quite flexible rubber tube, from one-third to one-half an inch in diameter, 28 inches long with a closed rounded end having an oval opening on each side, a little beyond the root of the tongue; direct the patient to swallow and at the same time push the tube somewhat rapidly into the stomach. To the outer end of the tube attach a short glass tube, and to this another rubber tube three feet long, and to the end of this a small funnel.

The quantity of water tolerated is judged by the subjective sensation of fulness, which varies considerably with each case. By the aid of siphonage wash the stomach out until the returning fluid becomes quite clear, usually three or four washings at each sitting being sufficient.

CANCER OF THE STOMACH.

From an editorial in the *Jour. Amer. Med. Ass'n*, Oct. 18, 1884:—According to the report of Dujardin-Beaumetz's paper, for which we are indebted to the New York *Medical Record* of October 4, there is no sign nor symptom which renders carcinoma of the stomach easy of recognition. There is no symptom that is pathognomonic of carcinoma of the stomach. At the bedside we are "usually unable to determine the precise nature of any internal tumor," and though "histology has given us a very complete list of the various forms of cancer," we are not capable of clinically distinguishing them with corresponding nicety. Cancer generally presents itself after the age of 40, and is more frequent in males than in females. But so also is gastric dilatation. As to the duration of the disease, it is said not to exceed three years. This the author pronounces incorrect, as he has observed one case in which, in all probability, it did not run its course short of 12 years. He knew of other instances where it had existed for periods longer than three years. Pain cannot be relied on, since it is not invariably present. "Painful œdema" of the extremities, which Trousseau considered as characteristic of cancer, may attend dilatation of the stomach. The coffee-grounds appearance of the *ejecta* is not trustworthy, since it is sometimes observed in gastric ulcer. Other dyspeptic symptoms are equally delusive by reason of their occurrence in chronic gastritis and dilatation. Even the presence of a tumor may be deceptive. According to the author, dilatation of this organ may exist together with thickening of the walls. Moreover, Quesnel's assertion, that the conjunction of cachexia, with a disorder of the stomach, is always proof of the affection being cancerous, is denied by Dujardin-Beaumetz. He has determined the amount of urea daily eliminated by patients suffering from cancer of the stomach, and found Romelare's statements correct in the main, though not without exception; that is, the amount with gastric ulcer is far in excess of that with gastric cancer. Dujardin-Beaumetz found 45 grains to be the daily average of urea in one patient, and hence concluded the disorder in the stomach in this case was cancerous. The necropsy, however, showed it to have been "an hydatid cyst."

In the hands of a Mikulicz, the gastroscope appears to do much toward illuminating the obscurity. This instrument is so difficult of manipulation, that it is not likely ever to become a part of the physician's paraphernalia. In Billroth's clinic, however, it is relied on as a valuable means of diagnosis.

Though fragments of cancerous tissue are not always to be found in the *ejecta*, their presence or absence is to be determined by microscopic inspection alone. Their absence would not disprove the existence of the suspected lesion, but, on the other hand, their detection would settle the question beyond a doubt.

Again, in hospital practice distension of the stomach, either with gas or liquids, is certainly advisable, since, Dujardin-Beaumetz to the contrary notwithstanding, it is often of great practical service. Else, why its employment at Vienna, Berlin, Munich, and elsewhere?

CIRRHOSIS OF THE PANCREAS.

Dr. CHARLES W. EARLE, of Chicago, publishes in the *Medical Record*, Nov. 8, 1884, four cases, verified by autopsies. The symptoms mentioned are, emaciation, flow of saliva-looking fluid from the mouth, presence of fat in the stools, vomiting of fatty material, pain and tenderness in the epigastrium,

extreme whiteness of the tissues (the most prominent symptom). Dr. Earle's patients were all adults; two men, and two women. The men were 65 and 57 years of age, and the women were aged 36 and 25 years.

THE DRY DIET CURE OF DYSPEPSIA.

From an editorial in the *Boston Med. and Surg. Jour.*, Oct. 2, 1884:—At a recent meeting of the Société de Therapeutique, Paris, Dr. Henri Huchard gave an account of his experience in the treatment of several inveterate cases of dyspepsia, attended with dilatation of the stomach; after complete failure of the milk regimen he changed his course, prescribing a dry diet and abstinence, as far as possible, from liquids. The result was most gratifying, all his patients getting well. What was characteristic of these cases was the aggravation of the gastric troubles on the ingestion of liquids. In all there was marked distention of the stomach, amounting in some instances to chronic dilatation; there were besides, gaseous eructations, colicky pains with sometimes cardiac oppression, a furred condition of the tongue, with often nausea and vomiting, but that which especially attracted attention was the supervention of attacks of suffocation or pain on the attempt being made to swallow any kind of liquid food. Huchard, from whose article in the *Bulletin general de Therapeutique* (August 30) we quote, gives to Chomel the honor of having first noted and clearly defined this "dyspepsia of liquids," although older authorities have remarked in cases of feeble digestion that the ingestion with meals of considerable quantities of liquids determines distention of the stomach and diminution in the secretion of gastric juice, while it is a saying of Beau that "good stomachs belong to those who drink little, and who drink nothing at meal time."

Having observed that in this form of dyspepsia the stomach digests solids much better than liquids, Chomel formulated the dry diet treatment, which consists in the utmost possible abstinence from liquids; the patient not being allowed to take more than one small cup of his ordinary drink during his repast. Full baths of lukewarm water and lavements were permitted in ordinary to maintain the requisite fluidity of the blood. An interval of at least eight hours between the morning and the afternoon meal was enjoined; if the time of breakfast was fixed at eleven a.m., the dinner could not be had till seven p.m. Soups of any kind might be taken, provided they were made quite thick. To these soups were added bread in small quantity, roast, boiled, or broiled meats warm or cold, fish, eggs, legumes, on condition that sauces should be used with them very sparingly. Fruits were permitted with moderation except such as are very juicy, *e. g.*, melons, grapes, peaches, etc. With this form of dyspepsia such foods as are finely divided and pulverulent (the powder of meat for instance) agree very well; raw oysters on bread, or scalloped oysters are unobjectionable dishes. For the constipation which afflicts these patients those purgatives should be selected which present themselves in a solid form.

According to Huchard, then, abstinence from liquids, or the "dry diet cure," to which Fonssagrives has given the name of *xerophagia* (Gr. "I eat dry food"), produces excellent effects in certain dilatations of the stomach, in atonic dyspepsias, in the dyspepsia of liquids.

EPIDEMIC DYSENTERY.

By FAYETTE DUNLAP, M.D.

From the *Louisville Med. News*, Oct. 18, 1884:—The town of Danville, Ky., and its vicinity has recently been visited by an epidemic of dysentery. Considering the number of cases and the unusual severity of the type prevailing there have been very few deaths. The symptoms and clinical history of the disease here differed in no respects from what we have already gathered from the literature of the subject.

The first case occurred in the person of a Main-street merchant, whose mode of life and general surroundings are as comfortable as can be desired. It rather disobeyed the rule of lingering around the damp and marshy places and crowded dwellings, and did most of its damage in the very best quarters of the town. In truth the most obstinate cases were found in homes where not the least objection can be raised against their hygienic surroundings. It made the first appearance in May, and until about the beginning of the autumn it was confined almost exclusively to the limits of the town, but since that time it has made its appearance in most every neighborhood in the county. It will be fair to state that every remedy and every plan of treatment recognized in modern therapeutics have been tried in the epidemic. I cannot say with any show of accuracy that any one plan has proved more successful than another. Some practitioners have given ipecac an impartial test, and in a minimum number of cases it has seemingly cut short the disease. In the majority, however, it wholly failed, and seemingly aggravated some of the cases. The neutral and alkaline salts have been used unsparingly, but they have found no fixed place in the management of dysentery.

A few cases were complicated with malaria, and proved very difficult of management, as the stomach was in no condition to bear the large doses of quinine requisite to eliminate this element. Very naturally opium was largely used, and this most distressing malady is rendered bearable by its influence.

As the principal result of the disease is disturbance of nutrition, it is highly important that alimentation be the first consideration in the management of a case of dysentery. Milk, broths, soups, and all nutritious foods in a fluid form should be systematically given. The stomach is so often easily upset by even the blandest diet that this item of nutrition is the most important feature in the case. The bowel, of course, cannot be used for this purpose in its inflamed condition.

Of medicinal measures the greatest diversity of practice prevailed. It is generally agreed, however, that opium was indispensable, and it entered into the treatment of every case. To quiet the patient it was often given even at the expense of persistent nausea. Sulphate of magnesium in laxative doses and combined with opium perhaps had the most extensive trial. It gave better satisfaction than the ipecac plan, but will not answer in every case. Some cases of dysentery proved intractable and others easily manageable with precisely the same course of treatment.

It may be fairly said that our stock of knowledge of the treatment of dysentery in an epidemic form is not enlarged by our recent experience unless we say that the most vaunted medicinal means will fail in some and in fact most cases.

The treatment pursued has been empirical throughout. We can give but few reasons why this or that remedy was used, except that some one had found it useful heretofore.

Local astringents have had a faithful trial, and often did excellent service. In not a few cases injections of a solution of sulphate of zinc or nitrate of silver or a tannic acid and opium suppository have undoubtedly added to the comfort and satisfactory progress of our patients. I have been in the habit of washing out the large bowel with warm water, simply to rid it of its irritating contents, and those patients who can bear this will find several hours of perfect quiet. Ordinarily dysentery with us runs its course in less than ten days, but lately we have all had patients seriously ill from two to three weeks, and the convalescence protracted. We may reasonably look for some instances of chronic ulceration of the rectum and narrowing of the gut. The morbid process has not confined itself to the rectum alone, but the symptoms clearly indicate an involvement of the transverse and ascending colon, and in one patient now in charge the abdominal tenderness is so general that I am disposed to think that the small intestine is acutely inflamed. Large sloughs of mucous membrane are often seen, and were sure evidence of the severity of the disease, and that it would be tardy in getting well. Pain and tenderness are so constant as to require large quantities of opium. There was no favorite manner of administering it, but in adults I preferred the hypodermic method, and in children I gave it by suppository when the rectum would

tolerate it. A full dose of belladonna extract combined with the opium would often relax a very painful spasmodic condition of the sphincter ani.

Any number of complications are likely to arise and must be dealt with as the judgment of the practitioners dictates.

In conclusion it may all be summed up as follows:—Dysentery is a disease which seriously disturbs the nutritive process, and is to be met by judicious alimentation. Medication is given by way of palliation and not with the expectation of a cure, that is, in a specific sense. There is no evidence that it is contagious, but certain precautions may prevent an attack.

MEANS TO INCREASE THE DIGESTIBILITY OF MILK.

Prof. UFFELMAN (*Arch. für Physiologie, St. Louis Med. and Surg. Journal*):—All substances which on being added to milk diminish the consistency of the clot, are apt to augment its digestibility.

The dilution of milk with water (one part of milk to three of water) augments by almost .05 the proportion of peptones contained in the digested bolus.

By adding to milk mucilaginous decoctions, peptonization is favored, and the milk is better absorbed than by the mere addition of water. Gum arabic also increases its digestibility; but as the acid of the gum is injurious, it is necessary to add a small quantity of bicarbonate of soda.

A mixture of milk with the yolk of eggs (milk one-half litre, yolk of two eggs, milk-sugar two teaspoonfuls); or simple milk one-half litre, yolk of one egg, can be recommended, but the clot is not as good as in breast-milk, and may also cause considerable flatulency.

The good effect of lime-water is not recognized by Uffelman; it can only be useful in exaggerated acid gastric secretion, but it is necessarily harmful when that secretion is insufficiently acid. Alcohol, especially Cognac, is justly considered as favoring digestion of milk, though we are unable to account for it physiologically. Perhaps it augments glandular secretions.

Milk can also be peptonized with pepsine or with pancreatine, and thus increase proteid material from .35 to .80. Milk thus prepared is of facile digestion but of a disagreeable odor, and of a bitter taste, which the addition of sugar does not entirely remove. Syrup of papain has not the same inconvenience, and can even be given separately.—*Medical Age*.

THE TONGUE IN HEALTH AND DISEASE.

Dr. A. W. WALLACE condenses, in the September number of the *Midland Medical Miscellany*, Dr. Beale's remarks on the tongue, as contained in his admirable little work on slight ailments. A healthy tongue is best known by negative characters, rather than by what it is. In order, therefore, to define the healthy tongue, the following conditions are to be excluded: First, the creamy white tongue, which denotes unremoved epithelium and metabolism of tissue in abeyance. Second, the furred tongue, in which the papillæ are elongated, and to which the epithelium adheres in long threads; this tongue is characteristic of inflammation. Third, the pale, sodden, tooth-marked tongue, which is indicative of anæmia. Fourth, the red tongue (a) with enlarged papillæ, as seen in the "strawberry tongue" of scarlatina; (b) the smooth and glazed, as in the "irritable tongue," which corresponds to the irritated mucous membrane elsewhere, as in the lung from phthisis, or intestines from diarrhœa. Fifth, the dry, brown tongue, pathognomonic of the typhoid state, in which blood exudes and dries on its surface, the secretion of saliva being nil. Sixth, the aphthous tongue, which is often followed by punched-out ulcers. This condition of the tongue is not particularly significant of any constitutional disturbance. It is more properly a local affection, and is to be treated with the *chlorate of potash*. And, seventh, the red fissured tongue, which is generally called syphilitic. Dr. Beale, how-

ever, says that this is not necessarily syphilitic, although he has found that the exhibition of the *iodide of potassium*, with or without small ($\frac{1}{4}$ of a grain) doses of *biniodide of mercury* is the most successful treatment.—*N. Y. Med. Times*, Nov., 1884.

DISEASES OF THE URINARY ORGANS.

THE CAUSES, THE PATHOLOGY AND THE TREATMENT OF ALBUMINURIA.

By GEORGE JOHNSON, M.D., F.R.S., Prof. of Clin. Med.; Sen. Phys. to King's Coll. Hospital, London, Eng.

From the *Medical Herald*, October, 1884:—The proximate cause of albuminuria may be stated in general terms to be either (1) some morbid condition of blood or (2) some mechanical impediment to the return of blood through the veins of the kidney. An abnormal or morbid condition of blood, productive of albuminuria, may be a result of suppressed action of the skin by exposure to cold and wet, especially from prolonged cold bathing; or it may be associated with one or other of the following diseases: scarlet fever, diphtheria, measles, erysipelas, typhoid or typhus fever, pyæmia, rheumatic fever, yellow fever, small-pox, cholera or severe choleraic diarrhea, scurvy and purpura.

In cases of jaundice the vicarious excretion of bile may cause temporary albuminuria. So, again, chronic dyspepsia is a frequent cause of albuminuria in consequence probably of the excretion of products of faulty digestion and amongst other causes of the same condition may be mentioned lead poisoning and alcoholic excesses.

In a large proportion of cases of glycosuria the urine is found to contain more or less albumen—a result probably of the irritant action of the sugar on the tissues of the kidney.

Dr. Clifford Allbutt has directed attention (*British Medical Journal*, February, 1877,) to the influence of mental anxiety in causing granular degeneration of the kidney. I do not agree in opinion with Dr. Allbutt that “mental anxiety is one of the chief, if not the chief cause of granular kidney,” but I believe that there is a real etiological relation between mental anxiety and some cases of albuminuria, and I have often seen, in cases of chronic renal disease, a great increase of albumen under the disturbing influence of mental emotion. In fact it seems to me that the albuminuria which appears to have resulted from mental and emotional influence is a form of albuminuria from dyspepsia, and the immediate cause of the renal disorder is excretion of some abnormal products of imperfect digestion.

The albuminuria which has for its immediate cause a mechanical impediment to the return of venous blood may be due primarily to valvular disease or degeneration of the walls of the heart, emphysema of the lungs with bronchitis, the pressure of ascitic fluid or of an ovarian, aneurismal or other tumor on the inferior cava, or more directly on one or both of the renal veins.

Puerperal albuminuria may belong to one or other of the before-mentioned classes of cases. That some *ante partum* cases are the result of morbid blood changes and that all *post partum* cases are due to septicæmia is highly probable, but when the urine, having been copiously albuminous immediately before parturition, is found entirely free from albumen within two days afterward, the mechanical pressure of the gravid uterus on the veins affords the most probable explanation of the phenomena.

Albuminuria is sometimes said to be a result of high arterial tension. I must confess myself unable to understand this theory. That it is often associated with increased arterial tension is of course indisputable.

The Smallest Trace of Albumen in the Urine is Always Pathological.—I feel that I cannot too strongly insist upon this, for while on the one hand we find that the urine of thousands of individuals of both sexes and of all ages is entirely free from albumen a frequently recurring or a persistent albuminuria is found to be sooner or later associated with serious structural degeneration of the kidney. Some pathologists appear to suppose that there is such a condition as physiological albuminuria, because more or less albumen is often found in the urine of those who are apparently in good health. It is a fact that the urine of persons apparently healthy may be found to contain albumen, not only in small quantities, but in great abundance, and this for periods extending over many months and even years consecutively.

The history of these cases is very various. In a considerable number of cases of albuminuria occurring in apparently healthy persons that have come under my observation the albumen has been as it were accidentally discovered by medical practitioners or medical students in their own urine which they had been led to test for the purpose of comparing the action of reagents on albuminous urine with another sample which they expected to find normal. In another set of cases, applicants for life insurance, believing themselves to be in perfect health, have been annoyed and alarmed at being told by the medical adviser of the insurance office that the urine passed in his presence contained albumen.

In other cases, again, I have found albumen in the urine of patients who have consulted me for some trivial ailment quite unassociated with renal disease.

But by far the most numerous class of cases of albuminuria in apparently healthy persons is that of individuals who are known to have suffered at some former period from an acute renal disease with or without dropsical complication. The acute symptoms having passed away the patient believes and declares himself to be quite well. There is no irritation of the bladder and no complaint of pain or uneasiness; the urine is normal in appearance, specific gravity and quantity, but it contains more or less albumen. When cases of this kind are carefully watched, as they should be, it is found that, after a very variable period, the signs and symptoms of incurable degeneration of the kidney are developed.

The longest interval that I have known between an attack of scarlet fever with acute renal dropsy, followed by persistent albuminuria, and at length a fatal degeneration of the kidneys with uræmia, is thirty years. Yet, up to within a few months of his death, the subject of that disease was doing the work of an extensive and laborious general practice.

Until the practice of testing the urine in every trivial ailment for which a patient consults his medical adviser becomes general many cases of albuminuria in persons apparently healthy will escape detection until they have passed into the stage of hopeless and incurable degeneration of the kidneys. It is important to bear in mind that, while the urine which is passed before breakfast and after a night's rest is free from albumen, albumen may be more or less abundantly present after food and exercise. In all cases, therefore, of suspected albuminuria I ask to be supplied with two specimens—one passed before breakfast and another two or three hours after a meal. In some cases active exercise, and even the erect posture, has more influence than food on the production of albuminuria.

The Diagnostic Value of Tube-casts.—It is very commonly assumed that the presence of tube-casts in the urine always indicates serious structural disease of the kidney, and that the absence of this microscopic evidence proves that grave organic mischief is not to be feared. Each of these assumptions, if accepted without qualification, is erroneous and misleading. Tube-casts of various kinds—epithelial, hyaline and blood-casts—are very numerous in most of the recent acute, and therefore curable, cases of albuminuria resulting from exposure to cold or from one or other of the various fever poisons, and on the other hand tube-casts may not be discoverable in the urine of patients who present other unmistakable signs of advanced degeneration of the kidneys. Some forms of tube-casts are of more unfavorable significance than others, more especially the large hyaline casts, which show that the tubes in

which they were molded have lost their gland cells, and the oily casts and cells which indicate extensive fatty degeneration of the glandular tissues.

Principles of Treatment.—One of the main principles in the treatment of albuminuria is to lessen, as far as possible, the work of the kidneys and to obtain for them physiological rest. Amongst the most efficient means for obtaining this object are rest in bed in all acute and severe cases, the promotion of the secretions of the skin and bowels, and above all a scanty diet with entire abstinence from alcoholic stimulants. An exclusive milk diet is often most successful in the treatment of recent acute cases, the plan being to give half a pint of milk to an adult about every two hours and to continue this diet until the urine has entirely ceased to be albuminous. It will sometimes be found that, when the albumen has disappeared while milk alone is being taken, a small meal of solid food, fish, poultry or mutton excites a reappearance of albumen. The patient and the friends often look upon milk-diet as allied to starvation, and frequent requests are made for some addition to the dietary, but I have a patient who subsisted on an exclusive milk-diet for five years, and then said that he never felt better in his life.

ON ALBUMINURIA.

By SIR ANDREW CLARK, Bart., M.D., Sen. Phys. to the London Hospital, Eng.

From the *Medical Herald*, Oct., 1884:—In all preceding discussions about albuminuria the speakers seem to me, if I am not in error, to deal with the presence of albumen in the urine as if it were of renal origin; or at any rate they neither sufficiently distinguish renal from non-renal albuminuria nor explicitly set forth, if they are known, the grounds of discriminating between them.

To avoid confusion in the course of the discussion it would, therefore, seem necessary to recognize the existence of non-renal albuminuria, to specify in cases of this sort the sources of the albumen and to set forth, so far as our present knowledge will permit, the means whereby renal may be distinguished from non-renal albuminuria.

In a good many women, for a few days before and for a few days after menstruation, the urine, free from blood-discs, leucocytes or pus, contains, sometimes continuously, sometimes intermittently, small quantities of albumen. In women guilty of habits of secret personal impurity a serous fluid is sometimes secreted into the vagina, and afterward, mixing with the urine, is found therein, responding in the usual manner to the tests for serum-albumen.

In some young men, excited by sexual desire and denying its indulgence, there is secreted from the urethra or its adjacent glands a fluid which, mixing with the urine, yields to the application of the ordinary tests evidence of the presence of serum-albumen.

In eczema of the bladder, in the early stages of villous tumor and in the venous congestions of aged men, albumen transudes in the vesical cavity, mixes with the urine, and may be readily mistaken for albumen of renal origin.

In the case of the late E. D., about whom I was consulted for renal disease, the albumen in the urine was proved to be independent of renal disorder and to have its origin in a small, delicate villous tumor of the bladder.

And now arises the question: In what way can we distinguish the non-renal from the renal albumen? I suppose that we shall be very near the truth if, in a given case of albuminous urine, where there are no constitutional evidences of renal disease, where the urine is of normal constitution *plus* albumen, and where some local cause adequate to its production exists, we say that the albumen is non-renal. But we shall not be certain. For any one of the specified local causes may exist without albumen necessarily passing into the urine, and the kidney may yield albumen to the urine without any material alteration of that secretion. In such possible, but rare

cases, one must critically watch the state of the constitution, which rarely fails to give early information of renal degeneration.

Of the non-renal forms of albuminuria occurring in leucorrhœa, cystitis, catarrh of the ureters and other affections in which histological elements are always present in the urine, it may be said that their diagnosis is attended with no serious difficulty; but in such cases one may easily forget that the existence of an albumen of non-renal does not exclude the existence of an albumen of renal origin, and indeed that not unfrequently they occur.

I divide cases of renal albuminuria provisionally into those of functional and those of structural origin. To say the truth, I think that in the present state of knowledge the discussion of structural is of less interest and of less importance than the discussion of functional albuminuria, to which I shall confine the few observations I have to offer.

To the use of the term "functional" many general and some just objections will be raised. It will be urged that every lesion of function must have its correlative lesion of structure, and that to use any term which appears to deny this fact or fails to give it at least implicit recognition is at variance with the principles of science and constitutes a backward instead of a forward movement in knowledge. To the logical coherency and force of this argument I make no objection, but I contend, as often before I have contended, that mere logical integrity is not, in such matters, the final test or measure of truth, which in the present state of knowledge can sometimes be reached only along lines which seem, as we understand them, at present to be illogical. And in no way could this paradox be better illustrated or more strongly enforced than by a critical study of what is called functional albuminuria. It is, I venture to say, certain that in the kidney giving rise to albumen in the urine there occur states—mechanical, physical, chemical, and in a provisional sense, vital—which are neither tangible nor visible, which not only cannot be estimated, but are even, by the most delicate instruments of research, incapable of recognition, states which may often come and go, disordering function and disturbing health, and yet leave no abiding marks of their presence and actions.

I say, therefore, that those functional affections of the kidneys, attended by the presence of albumen in the urine, are of the utmost importance to the better understanding of organic disease, and deserve a more prolonged and critical study than they have yet received.

Of the forms of functional albuminuria with which I am practically acquainted I shall mention four as worthy of further consideration. They are the nervous, the oxaluric, the hepatic and the gouty. I leave on one side the functional albuminuria of cold and the various forms of peptonuria connected with indigestion.

The first two forms occur chiefly among adolescents; the latter two are found for the most part among elderly people.

I am as sure as I can be about any thing incapable of demonstration that all strain of nervous system, especially under emotional excitement, is capable of producing functional albuminuria.

The most numerous illustrations which I have met of functional albuminuria have occurred in young men aged from eighteen to thirty, whose urine was of high density and loaded with oxalate of lime. To put the matter in another way, I have not very often followed carefully a case of "oxaluria" with high density and an excess of urea without finding sooner or later traces of albumen in the urine. This is by far the most interesting and instructive of cases.

Illustrations of the hepatic group occur for the most part in middle-aged men. With the subsidence of the hepatic trouble the albumen disappears from the urine.

Temporary albuminuria in gouty persons whose kidneys are as yet structurally unaffected is common enough in certain conditions. When the balance between ingoing and outgoing is disturbed, when the blood becomes loaded with excrementitious stuffs, when there is increasing vascular tension, with restlessness, feverishness, dry skin and headache then as a common rule traces of albumen appear in the urine.—*British Medical Journal*.

THE SIGNIFICANCE OF ALBUMEN IN THE URINE.

By ORVILLE W. OWEN, M.D., Detroit, Mich.

From the *Medical Age*, Sept. 10, 1884:—In making a large number of analyses of urine, there are found many samples which show by chemical tests a greater or less amount of albumen or its earlier form, albuminose. When albumen is found, as a rule, the diagnosis is renal or vesical trouble. This is, in many cases, a grand error, and it should be borne in mind that we may have a large quantity of albumen, and even a cast or two, without having organic disease of the kidneys or bladder. The mere presence of albumen is not conclusive evidence of renal difficulty, for *albumen is but a symptom and not a disease*. When pus is found in large quantities and associated with it, albumen, (the natural sequence of the pus formation and degeneration,) the diagnosis *must* be based upon the balance of the chemical tests, and the microscopical examination; and I would like, right here, to emphasize the fact, that albumen by itself has no diagnostic significance, that is, if found alone and without any of the other morbid products. I may be assailed upon this point, as I was when I made the statement in my article in the *Detroit Clinic*, that renal calculi could be diagnosed by microscopical examination, and in another article, that the urine loaded with glucose would show a low specific gravity, 1010 1020, rather than a high, 4080 40, but time which clears up most things, will, I am sure, uphold me in this statement, as, I am thankful to say, it has in the others. The time will come, and in the near future, when text-books with "Albuminuria" as a title will be done away with, and each organic disease of the kidneys will have a distinct name, and the albuminuria will be placed in its own proper place as a symptom and not held up to the world as a disease. When these facts are recognized, then will the treatment of nephritis, etc., be placed on a substantial and scientific basis.

DYSPPNŒA IN BRIGHT'S DISEASE.

By R. P. HOWARD, M.D., L.R.C.S.E., Prof. Theory and Practice of Med., McGill Univ., Montreal.

From the *Canada Med. and Surg. Jour.*, Nov., 1884:—Dr. Howard describes the varieties of dyspnœa which he has seen with Bright's disease, and closes his paper with the following points:—(1) That marked dyspnœa may occur in Bright's disease not due to gross lesions in the lungs, pleura or heart. (2) That it may be a continuous dyspnœa, or of paroxysmal character, resembling ordinary spasmodic asthma; and that these types may occur in the same case, although, in my experience, the continued variety is more frequent than the asthmatic. (3) That these forms of dyspnœa may occur as the prominent symptoms of renal disease, and their origin may escape recognition if the urine be not carefully examined, as well as the heart and pulse. (4) That Cheyne-Stokes respiration is often a symptom of Bright's disease, and that it obtains in both acute parenchymatous and in chronic interstitial nephritis. (5) That while usually an evidence that the fatal issue is near at hand, it may occur in a chronic form, and may occur for weeks, perhaps even for years. (6) That these several forms of dyspnœa just mentioned are very probably due to that defective renal elimination called uræmia. (7) That in the acute forms of Bright's disease, serious or fatal dyspnœa sometimes, but rarely, occurs in connection with so called "œdema glottidis."

SURGERY.

OPERATIONS, APPLIANCES, DRESSINGS, ETC.

THE EXTERNAL APPEARANCES OF PISTOL-SHOT WOUNDS.

By D. B. N. FISH, M.D., of Amherst, Mass.

From the *Boston Med. and Surg. Jour.*, Oct. 2, 1884:—In an elaborate paper read before the Mass. Medico-Legal Soc., Dr. Fish gives what he believes to be a new and almost infallible rule for determining the *position of the weapon*:—

Whenever the burned, or burned and smutted, spot is found, either upon the skin, the hair, or the clothing, at one side of the wound made by the bullet, by placing the muzzle of the weapon upon the wound so that the line of the hammer and sight will meet a line drawn from the centre of the wound through the centre of the spot of burning, or of burning and smutting, you will have the exact position of the weapon when it was fired. By position of the weapon I do not mean the distance at which it was fired, nor its angle to the body; the latter does not seem to modify the rule I have given; but the manner or position in which it was held.

After giving the details of a large number of experiments the writer says:—My experiments have been made upon sheep skin, chamois skin, upon the skin of a young calf, and upon the skin of a living cat; also upon blotting paper of various thicknesses, rubber, cotton and woolen cloth.

SUMMARY. The *distance* at which a pistol-shot has been fired may be estimated by the following general rules:—

(1.) From a great distance the entrance wound will usually be large and irregular; there will be absence of any great degree of lividity of its edges, and absence of the marks of powder. The wound of exit, if one is present, will usually be larger than the wound of entrance. At any distance the edges of wounds of entrance will usually be inverted, those of exit everted.

(2.) From a short distance the entrance and exit wounds will generally be nearly equal in size; the edges of the former will be blackened, and powder grains will be imbedded in the skin, but there will be absence of the scorplings and brandings of powder.

(3.) Close to the body the entrance wound will generally be larger than the exit. There will often be, in addition to the tattooing of the skin by unburned grains of powder, a mark or *brand* made by the flame of the gases and of the burning powder, by the soot of the partly burned powder, and by the residue or ash of the wholly burned powder. As a rule this *brand*, which may consist of a burning alone of the hair, the skin, or the clothing, or of a burning and blackening of the skin or clothing, will appear at one side of the bullet hole.

The *direction* of a shot will be shown in part by the trajectory of the ball,—a subject of which this paper does not treat—and by the location of the wound of entrance. The character of the opening, whether rounded or oval, may give some indication of the angle at which the weapon has been held.

The *position of the weapon* (and whenever this term is used I wish to be understood to mean not its angle to or distance from the body, but the man-

ner or position in which it is held) is to be determined by the following rule: When the *brand* appears upon the hair, the skin, or the clothing at one side of the bullet hole, hold the weapon with its muzzle to the bullet hole so that the line of its hammer and sight will meet a line drawn from the centre of the bullet hole through the centre of the *brand*, and it will show the exact position of the weapon when fired.

This rule is deduced from the newly-discovered fact that, owing to the recoil of the muzzle of the weapon in the direction of its sight, this *brand*, when it appears at one side of the bullet hole, will appear upon that side which corresponds to the side of the hammer and sight in their position relative to the bore or barrel of the weapon. That is, if the weapon is held upside down the *brand* will appear below the bullet hole.

Accidental wounds are generally near wounds. When inflicted from a distance they cannot be distinguished from homicidal wounds.

Homicidal wounds inflicted within the suicide limit have heretofore been distinguished from suicidal wounds alone by the location of the wound and by the uncertain evidence presented by the trajectory of the ball. When the location of the wound has been such that a person might easily have inflicted it upon himself there have been no means of determining from its character whether it was homicidal or suicidal. To aid in distinguishing between such wounds I offer the following rule: When the location of the *brand*, relative to the bullet hole, shows that the weapon has been held in a position of its hammer and sight impossible or improbable for a suicide it is probable that a murder has been committed. Certain relative locations of this *brand* may also indicate that the victim has been shot while in a reclining position.

Multiple wounds are usually homicidal, but may be either accidental or suicidal.

Shots fired beyond the usual suicide limit are probably homicidal.

Suicidal wounds. It is said that the suicide rarely holds the muzzle of his pistol at more than eight inches from the body. Suicides generally fire at the side or front of the head, next at the heart; they sometimes fire at the back of the head.

The distance from the body at which the weapon must be held to show the *brand* plainly is probably very nearly as follows: for small pistols and revolvers not over four to six inches; for large weapons of this class not over twelve to fourteen inches.

SYLLABUS OF THE TREATMENT OF CRANIAL FRACTURES.

By JOHN B. ROBERTS, M.D., Prof. of Operative Surgery, Phil. Polyclinic.

In the June number of *The Polyclinic* I expressed myself in favor of a more frequent adoption of trephining in cranial fractures. In the present paper I shall give a tabulated statement of what is, in my judgment, the proper treatment for each variety of such fractures. I admit that the line of treatment advocated is more heroic than that generally taught, but it has been accepted only after careful consideration of the reasoning of those who hold the opposite opinion to my own. Every case must be individually studied, and the patient's chances of death, of life with subsequent epilepsy of insanity, or of return to perfect health, carefully weighed; but for a working rule to guide the student and practitioner, I think experience will show that the indications given in the table are correct. Trephining, properly performed, is in itself so free of danger that in a doubtful case the patient had better be trephined than allowed to run the risk of death, epilepsy or insanity.

SIMPLE FISSURED FRACTURES.

1. No evident depression, no brain symptoms. No operation.
2. No evident depression, with brain symptoms. Incise scalp and trephine.
3. With evident depression, no brain symptoms. Incise scalp and possibly trephine.

4. With evident depression, with brain symptoms. Incise scalp and trephine.

SIMPLE COMMINUTED FRACTURES.

5. No evident depression, no brain symptoms. Incise scalp and probably trephine.

6. No evident depression, with brain symptoms. Incise scalp and trephine.

7. With evident depression, no brain symptoms. Incise scalp and trephine.

8. With evident depression, with brain symptoms. Incise scalp and trephine.

COMPOUND FISSURED FRACTURES.

9. No evident depression, no brain symptoms. No operations, but treat wound.

10. No evident depression, with brain symptoms. Trephine.

11. With evident depression, no brain symptoms. Possibly trephine.

12. With evident depression, with brain symptoms. Trephine.

COMPOUND COMMINUTED FRACTURES.

13. No evident depression, no brain symptoms. Probably trephine.

14. No evident depression, with brain symptoms. Trephine.

15. With evident depression, no brain symptoms. Trephine.

16. With evident depression, with brain symptoms. Trephine.

PUNCTURED AND GUNSHOT FRACTURES.

17. In all cases and under all circumstances. Trephine.

In classes 8 and 11 I should be inclined to trephine if the depression was marked, or the fissures sufficiently multiple to approach the character of a comminuted fracture.

In classes 5 and 13 I should trephine, unless the comminution was found to be inconsiderable.

The operation, when decided upon, should be performed at once, or certainly not delayed more than a few hours.

All cases, whether trephined or not, should be treated as cases of incipient inflammation of the brain.—*The Polyclinic, Sept. 15, 1884.*

FRACTURE OF THE PATELLA.

By J. H. HOBART BURGE, M.D., Visiting Surg. to the Long Island Coll. Hosp., Brooklyn, N.Y.

From the *Proceedings of the King's Co. Med. Soc.*:—What are the indications in the treatment of fracture of the patella? Obviously, to put the fragments as nearly as possible into their normal relation to each other, and keep them there until union, in this case generally ligamentous, has taken place and has become strong enough to resist all ordinary influences which would at an earlier period be likely, in whole or in part, to break it up.

A marked feature of the method which I employ is the weight and pulley, and the superiority of this over all other modes of retention can, in my opinion, hardly be over-estimated. All other appliances for the retention of the fragments in this fracture, excepting, of course, Malgaigne's hooks, relax speedily, and have to be very frequently renewed or readjusted, and this is a constant temptation to make them uncomfortably tight.

If I am not mistaken, I was the first to use the *axis in peritrochio* in the treatment of this injury. If the fathers did use this method, it was forgotten, and I revived it sixteen years ago.

The apparatus is described as follows:—The padded straight board upon which the limb rests is five or six inches wide throughout its length, except that the upper end is somewhat broader, for the comfort of the patient. It is divided and hinged opposite the knee, to provide for slight passive motion. A movable foot-piece is attached. This straight board is hinged at its upper end to another board of about equal length, and wide enough at its middle

third for the insertion of screws supporting little brass wheels, around which the cords are passed to the weights at the foot of the bed. The splints proper are of sole-leather—one about a foot long, five or six inches broad at its upper end, narrowed toward the knee, and made concave at its lower end to fit the upper border of the patella; the other splint about three inches and a half both in breadth and in length, cut out at its upper margin so as to fit the lower border of the bone. These splints of sole-leather should be soaked a few minutes in cold water, till they are quite pliable—hot water makes them too soft, and lengthens the time required for drying. Pad one side of each splint with cotton-wool, and cover neatly with ordinary unbleached muslin. Bind both splints to the limb as nearly as possible in the position which they are intended to occupy, with a roller bandage. In a few hours they will be thoroughly molded to the limb and as firm as a board. The roller can then be removed. A small strong cord, for the attachment of the weights, should now be sewed firmly just above the concave margin of each splint and passed through the pulleys.

The splints are now so firm and fit so accurately that bandages are unnecessary. They require only to be tied in place, the bands passing not directly about the limb, but under the board upon which the limb rests. It may be well to pin these bands to the splints to prevent their slipping. The weights may vary from one to three or four pounds.

When I first introduced this apparatus I made for it the following claims, which have been fully justified by subsequent experience:—(1) It leaves the injured bone so exposed to the surgeon's observation that he need have no anxiety in reference to *tilting, side-slipping, or retracting* of the fragments. (2) It grasps so firmly and yet so tenderly the quadriceps extensor, together with the upper fragment of the bone, that it enables us to approximate the broken surfaces more completely than I have ever been able to do without violence. (3) It is comfortable to the patient. (4) It is inexpensive, simple in all its parts, easily extemporized, and easily applied.

I can now make one more claim—viz., that while the fragments are thoroughly held in place, such a degree of passive motion can be made from time to time as will greatly lessen the stiffness of the joint which so often annoys our patients for months after he is allowed to go at large.

Dr. James L. Little, of New York, uses plaster of Paris, making a clear distinction between a plaster *bandage* and a plaster *splint*. In his experienced hands, no doubt good results are obtained; but, in the very nature of things, these coaptation splints must relax, especially if the patient gets about on crutches. The strictures of Dr. F. H. Hamilton upon plaster of Paris as a dressing in the treatment of fractures are strong, and, I think, well founded. Yet I have been surprised at the skill displayed by some surgeons in the use of this material. Nevertheless, I think it can not be used with safety by those who have had little surgical experience.

Dr. Little emphasizes an important point in writing of his appliance by the use of the following italics: "*This dressing differs essentially from all others in that fragments are adjusted by the hands of the surgeon, and the setting of the plaster keeps them in the exact position in which they are held.*" It is fair to say that the doctor had not seen my apparatus, for by its use the surgeon can at any moment separate the splints of coaptation and adjust the fragments, or, what is better still, assure himself that no adjusting is necessary. He has then only to allow the splints to be drawn gently into place again, as they are by the weights, which never tire and never relax.

SAYRE'S SHORT SPLINT IN INTRA-CAPSULAR FRACTURE OF FEMUR.

By W. M. Fuqua, M.D. Hopkinsville, Ky.

I have recently had very gratifying results from the application of the weight and pulley in a case of intra capsular fracture at the neck of the femur, with the effect of inducing not only great comfort to the patient, but also the rapid absorption of the synovial accumulation within the joint. Sub-

sequently the limb was adjusted with Physic's modification of Dessault's splint, the patient making a good recovery in eight weeks, with useful joint, and but little shortening. It occurred to me while treating this case, that it was not requisite to confine the patient to bed longer than ten or fifteen days, and after this to firmly adjust a well-fitting "*Sayre's short splint*," and place the patient on his feet, having first lengthened the sound leg by the addition of an inch cork sole. With this appliance and a crutch and cane the patient walks about just as in a case of chronic disease of the coxa-femoral articulation. If the tendency to eversion, or possibly to inversion be great, then "*Sayre's long splint*" would be required, night extension to be made by weight, and the splint to be used during the day.

I am clearly of the belief that the "do-nothing" plan of the older surgeons, sanctioned by modern authority, is wrong, and should be abandoned. The expectant plan, that had expression in supporting the limb with pillows, etc., grew out of the idea that any plan of treatment looking toward osseous union was fallacious. Experience has shown, however, that bony union can be had, and I take it that all diligence should be used in endeavoring to bring about this result. From a great want of similarity in the prominent symptoms in different cases, viz., degree of shortening, eversion or inversion, crepitation measurement, preternatural mobility, etc., I am convinced that many of these fractures are through the inter-trochanteric lines, and therefore, amenable to the reproductive influence of the periosteum.

Were it true that no union was possible, the exhaustion and bed-sores incident to confinement of long duration, and possibly with synovial or purulent accumulation, should, I think, lead us to try this proposed plan. So far as I am informed, I am the first to suggest Sayre's splint for this grave fracture, and indulge the hope that it may prove to be of good service, not only in enhancing comfort but in securing bony union.—*Amer. Practitioner*, Oct., 1884.

FRACTURE OF THE CLAVICLE.

Dr. S. TELLER, of New York, in a note published in the *Medical Record*, Nov. 8, 1884, gives the following method of preventing a protuberance at the point of fracture:—Turn the arm of the affected side behind the back, and bring it as far backward as possible in such manner that the dorsal side of the hand comes to lie on the opposite buttock. To retain this position, it is necessary only to fix a narrow strip of adhesive plaster around the wrist and thence around the body, or the whole arm may be fixed on the body by means of a roller bandage from under the axilla down to the crista ilia. Speedy union without deformity is reported as occurring in a dozen cases. The only drawback is the difficulty of lying down, but the patients are soon able to obtain perfect rest sleeping on the sound side.

ULCERS OF THE LEG.

By B. FARQUHAR CURTIS, M.D., New York.

In the *N. Y. Med. Jour.*, Nov. 8, 1884, Dr. Curtis recommends as a very convenient dressing for ulcers of the leg Lister's boric-acid dressing applied with a crinoline bandage. Its advantages are:—(1) firm and lasting support even enabling patients to work; (2) asepsis, and non-disturbance of the part; (3) economy of time to both surgeon and patient; (4) economy of material, one dressing costing but little more than any ordinary dressing and bandage, and lasting three times as long.

The mode of application is as follows:—The leg and foot are thoroughly washed with a 1-to-40 carbolic-acid (or 1-to-1,000 corrosive-sublimate) solution, and the ulcer itself is washed with a saturated solution of boric-acid. Over the ulcer is put a piece of thin gutta-percha tissue (as a substitute for the Lister macintosh), large enough to extend about one-fourth of an inch beyond its edges on all sides, which has been soaking for some minutes in the boric-acid solution. The leg is wiped dry, sufficient borated or salicylated cotton to take up the discharge is laid over the ulcer, and the rest of the leg

from the ankle to the knee is wrapped in a half-inch layer of cotton batting. An ordinary bandage is applied to the foot.

The crinoline bandage (three inches wide, ten to twelve yards long) has meanwhile been soaking for five minutes in water, and it is now squeezed quite dry and snugly applied over the cotton from the ankle to the knee making a thickness of three or four layers. Care must be taken to have the cotton project beyond both its upper and lower edges, as they may excoriate the skin when dry and stiff. In half an hour the crinoline will be dry; but, if time is important, an ordinary bandage may be applied outside of the crinoline, and the patient dismissed at once.

We direct our patients to return in a week; but to come at once if they should have any pain, or if the discharge from the ulcer should come through the dressing. But the dressing can be worn for much longer than a week. The histories of eight cases are given.

THE SO-CALLED PERFORATING ULCER OF THE FOOT.—SPONTANEOUS PODALIC GANGRENE LIMITED TO SMALL AREA.

By T. MITCHELL CHANCE, Cleveland, O.

From the *Cincinnati Lancet and Clinic*, Aug. 30, 1884.—The literature of gangrene of the foot occurring as a secondary result of injuries; as a direct effect of the long continued use of ergot or ergotized bread; and from calcification of the arteries of the foot and leg, is quite rich and decided. Of the varieties arising from other causes, however, but little is known.

Eliminating, then, all but the latter class; we have for consideration all those obscure cases of dry gangrenous action occurring spontaneously in the foot, and generally limited to small circumscribed areas, and which are not assignable to high degrees of heat or cold, injuries, drugs, or well marked atheroma. These cases constitute the disease known as perforating ulcer of the foot, or idiopathic foot ulcer.

The gangrene occurs in oval or round patches, commencing in the integument, and assuming from the start, a chronic or subacute character it gradually involves the underlying structures to a variable extent. These patches commence as small, dark discolorations of the skin much resembling a bruise, there being no elevation or depression of the cuticle until suppuration has occurred beneath; there is no inflammatory areola, unusual heat, or other sign of inflammation for one, two, or three weeks; the affected skin becomes dry, mummified, and, when suppuration occurs, sinks below the level of the surrounding integument, but does not separate until after suppuration has continued for several weeks or perhaps months. The tissues beneath this slough being constantly bathed in pus for so long a time, and being in a debilitated condition are softened, pulpified, and frequently participate in the gangrenous action until healthier structure is reached, when the ulcerative process replaces the gangrenous. In this manner an ulcer of a low type is produced; this ulcer having a tendency to perpendicular erosive action, hence the name perforating ulcer. The reason why the ulcer spreads in this direction, while ordinary ulcers have a tendency to spread laterally, will be obvious enough when their special pathology is considered. There is in the first place, an impassable barrier to the passage of the pus laterally, as the slough is closely adherent at its periphery for several weeks after suppuration has loosened it elsewhere. Then there is, in my opinion, more or less deep-seated arterial disease, either primary or secondary, whereas in simple ulcers the veins of the integument are mostly at fault.

The atheromatous degeneration of the arteries accompany chronic interstitial nephritis, especially when complicated with obstructive aortic disease may act as a predisposing cause of perforating ulcer; so may subacute arteritis, and probably, subacute phlebitis, but it is rather difficult to believe that peripheral nerve lesions acting alone could produce this singular malady. On the other hand, deep-seated centric nervous disease might readily so alter the nutrition of the part as to predispose it to this form of ulcer or gan-

grene. However, I believe that whether primary or secondary in their appearance, arterial or venous lesions are always factors in the production of perforating ulcer; but that nervous diseases and various blood dyscrasæ may, and frequently do play the principal role in the etiology of the affection, I do not doubt.

If these views be correct, the treatment and prognosis and treatment must be widely different from those of simple ulcer. The local treatment becomes of comparatively trivial importance, and the general treatment rises to a paramount consideration. The prognosis is generally unfavorable, both regarding the healing of the ulcer and the recovery of the patient. Restoration to perfect health is not to be expected. Ulcer after ulcer may form and the patient's strength becomes exhausted, or the original sore or sores refuse to heal, and not unfrequently he perishes from the intercurrent disease of which sore is only a local expression. On the other hand, many patients make a good, but tedious recovery.

TUBERCULOSIS OF BONE.

Dr. ROSWELL PARK, of Buffalo, N. Y. (*N. Y. Med. Jour.*, Nov. 22, 1884), presented at the Buffalo Med. and Surg. Ass'n specimens to substantiate the position he took with regard to the frequency and pathological importance of local tubercular processes, not merely in bone, but in nearly every tissue in the body. He rejects the view of Barwell that in nearly all cases, of which "white swelling" is typical, the trouble begins in the synovial membrane, and believes that the large proportion of these cases begin by foci of irritation and inflammation in the articular ends of the long bones, and that the joint lesion is not the primary, but the secondary disturbance. Dr. Park also rejects what he calls the pernicious doctrine of the *traumatic* origin of chronic joint disease, and believes that it has unduly influenced the professional mind.

OSTEOTOMY.

Dr. V. P. GIBNEY, of New York, (*N. Y. Med. Jour.*, Dec. 6, 1884) has learned the following lessons in the performance of osteotomy: (1) Exaggerate the connection of the deformity. (2) Examine the limb at the end of a week and ascertain whether the amount of the connection gained is the amount desired. (3) Do not hesitate to refraction by manual force, if necessary. (4) With strict attention to details in operating and the use of good plaster-of-Paris splints, cases can be mated in dispensaries nearly as well as in hospitals. (5) In dispensary cases do all the operating you propose, at one sitting.

THE TREATMENT OF GOITRE.

Dr. EICHBERG, of Cincinnati, publishes a translation, in the *Cincinnati Lancet and Clinic*, Nov. 22, 1884, the views of Prof. Bruns, of Tübingen, concerning the surgical treatment of goitre. Some Swiss surgeons noticed in several cases after the total extirpation of goitre, very serious disturbances of the general health, which Kocher has systematized to a distinct nosological affection to which he gives the name of *cachexia strumi privæ*. These disturbances are especially apt to occur when the subject is operated on during the stage of development of the tumor, and begin, as a rule, between one and four months after operation.

The symptoms of the cachexia constitute a distinct nosological affection. Some months after operation, when the patient is seemingly perfectly well, there is developed a gradually increasing disturbance of general nutrition, which, in its highest development, leads to a well-marked cretinoid condition. All observers agree that the cachexia only appears *after total extirpation of the gland*, and is constantly wanting after partial removal, or where there is an accessory thyroid.

Practically we may draw these conclusions: that PARTIAL extirpation of the thyroid yields very favorable results, and should be more frequently resorted to; that it should only be undertaken when examination has shown that a part of the tumor can be left behind, and that it has been sufficiently proven that TOTAL extirpation of the thyroid gland is to be stricken from the list of physiologically justifiable operations.

HYPERPLASTIC FOLLICULAR GOITRE.

Dr. A. G. GERSTER, of New York, presented to *N. Y. Surg. Soc.*, Oct. 28, 1884, a patient 24 years of age, a native of Bohemia, from whom he had removed the right half of the thyroid body. The reason why he resorted to extirpation was because the growth contained calcareous nodules, was increasing in size rapidly, and the patient had begun to suffer from dyspnœa. The flap operation was performed, from 70 to 75 ligatures were applied to cut vessels, and not more than one ounce of blood was lost.

SPONTANEOUS FRACTURE OF BOTH FEMORA.

Dr. L. A. STIMSON, of New York, presented at the same meeting of the *N. Y. Surg. Soc.*, specimens from the case of a man 51 years of age, who, the day before admission to Bellevue Hospital, while walking across the room, caught his toe in the oil-cloth and fell, and fractured both thigh bones at about the junction of the upper with the middle thirds. At autopsy the bones showed an advanced stage of osteo-porosis. The compact tissue and the wall of the shaft had given place almost entirely to frail spongy tissue. The diameter of each bone was as great as usual, but the medullary canal was very large.

TRAUMATIC CEPHALHYDROCELE.

From the *College and Clinical Record*, Sept., 1884.—Compound fracture of the skull, especially of its base, with resulting escape of the cerebro-spinal fluid, is, as every one knows, a common accident; but the occurrence of a sub-facial accumulation of this fluid, in connection with and consequent upon simple fracture of the vault, is of such rarity that two cases recorded by Dr. P. S. Connor, of Cincinnati, in the *Amer. Journal of the Med. Sciences*, will be studied with interest. So far as he has been able to ascertain, there have been reported but 19 cases of sub-facial accumulation of the cerebro-spinal fluid after simple vault fracture, and three others where there had been originally a communicating wound of the scalp, which had closed.

As far as has yet been observed, excluding those cases which were primarily compound, this traumatic cephalhydrocele is met with only in young subjects.

The decided gravity of these cases is apparent from the statistics. Of the 18 cases of simple fracture in which the result is known, 9 (50 per cent.) died—8 of meningo-encephalitis and one of erysipelas and meningitis; and of the 3 in which the fracture was originally compound, 1 died (33 per cent.) of cerebral abscess. Even the supposed recoveries may be regarded with some suspicion, because of too early report.

Dr. Connor draws the following general conclusions: (1) Simple fracture of the vault of the skull may give rise to a collection, under the scalp, of the cerebro-spinal fluid; coming, it may be, only from an opened ventricular cavity. (2) Such traumatic cephalhydrocele may be developed quickly, or only after the lapse of a number of days or even weeks. (3) The condition is one that has thus far been noticed only in young subjects. (4) The accident is quite likely to prove fatal from lepto-meningitis or meningo-encephalitis. (5) Operative interference should be restricted to the removal by aspiration of a limited amount of fluid; and such aspiration should be made only when severe pressure symptoms have manifested themselves. (6) A similar fluid accumulation may occur after closure of the external wound of a compound vault fracture or of a trephining.

RESECTION OF THE HIP AND KNEE.

M. NEUBER, of Kiel, at the German Society of Surgery, proposed some modifications in order to insure the solid ankylosis of these articulations which he asserts should be the results desired by the operation. He goes so far as to pin together the vivified surfaces of the femur and tibia. Hahn, of Berlin, has employed this method 25 times since 1882, Volkmann and König, on the contrary, thought that operations with the object of producing ankylosis should be abandoned, because the patients use the limb with difficulty. The endeavor should be to make new articulations. Doubtless the solidity of the limb is less, and the limping is greater than with ankylosis, but the persistence of function is preferable. In the child, Volkmann said that the resection of the knee was never necessary; the operation should be limited to extirpation of the synovial membrane. König went so far as to say that resection of the knee in children under 14 years was a grave fault. M. Neuber replied that before all it was necessary to preserve the life of the patient, the conservation of the functions of the limb was a secondary consideration. But, said Volkmann, none of my resection operations have died. Pardon, replied Neuber, I know from very good authority that at your clinic many of your hip resections die. That is an error, replied Volkmann. Deaths from albuminuria and tuberculosis should not be set down to the operation.—*Ed. Canadian Practitioner, Oct., 1884.*

COXECTOMY FOR CONGENITAL DISLOCATION OF HIP.

Congenital dislocations of the head of the femur, especially when they have existed for some time, are notoriously unamenable to permanent relief, the means resorted to for this purpose being, as a rule, directed to limiting the tendency of the bone to further displacement by wearing a strap of webbing around the hips. Within the past few years, however, Esmarch cured a case by permanent extension, and Brodhurst had a successful result after drawing down the head of the bone into the acetabulum, through which the retracted muscles were rendered tense, when their tendons were freely divided subcutaneously. A groin-pad and a thigh-splint, worn for six weeks, effectually prevented subsequent displacement, and the patient was able to walk without the artificial support.

Recently Dr. Heusner, of Barmen, has demonstrated that such cases are open to more radical measures, and placed on record the first excision of the hip for congenital dislocation. The operation was performed for excessive suffering in the left joint of a girl twenty years of age. The ligamentum teres was absent, the head of the femur was about as large as that of a child of six years, ovoidal in shape and much flattened, and its surface was uneven, and the neck of the bone formed an obtuse angle with the shaft. The acetabulum was fully developed and of normal size, although its rim was somewhat flattened and polished above and below. The head, neck, and nearly an inch of the shaft of the femur having been excised, the acetabulum was made deeper with the chisel and the parts brought into apposition. At the expiration of eleven weeks, with the aid of a cane, the patient was able to walk without fatigue for half an hour, the pain was relieved, and there was every prospect of future good use of the limb.

The case shows that the theoretical objection to operative interference in congenital dislocations of the hip, based upon the absence of a well-formed cotyloid cavity, is not well founded. Even if the acetabulum were superficial or deficient, a cavity of sufficient size to accommodate the divided shaft of the femur could be chiselled out of the ilium.—*El. Med. News, Oct., 25, 1884.*

MORBUS COXARIUS.

By T. LEO A. MCGRAW, M.D., Prof. of Surg., Detroit Med. Coll., Michigan.

From the *Medical Age*, September, 25, 1884.—You may put it down as an invariable rule, that no joint whose function is perfect can be diseased. The

very first sign of trouble of any kind in any joint is impairment of motion. But other causes than disease in the joint may produce lameness.

When however lameness is caused by a distant trouble, motion is impaired, if at all, only in one or two directions, while disease of the articulation itself causes a general impairment of function. I have never seen an exception to this rule, as far, at least, as concerns inflammatory troubles of joints. Now, if we examine this boy closely, we will find the motion of the affected joints is limited in every direction. There can be no question in this case that the disease is one of the hip-joint itself, and the absence of all history of injury points to constitutional conditions as the principal cause of trouble. This corresponds with the usual history of such cases in my practice, for I have never been able to corroborate the experience of Sayre and other American surgeons, who look upon hip disease as a local inflammatory trouble caused by injury. In by far the larger number of cases it is easy to demonstrate a constitutional defect of nutrition, of which the joint disease is but one local expression. A further proof of this has been the discovery by German observers of the bacillus tuberculosis in the substance of the bones and in the joints themselves, in very many cases of hip disease.

Constitutional treatment is, therefore, as essential in these cases as in any other form of tuberculosis, and I am convinced that the internal administration of bichloride of mercury, combined with the hypophosphites, is of very material service in shortening the course of the malady. I need hardly say that good nutritious food and proper hygiene are of even more importance, but, unfortunately, they cannot be secured for a patient as easily as the medicines. As regards local treatment there can be no doubt that the extension and fixation of a diseased joint is of great service in relieving pain and inflammation, but the very greatest good which they accomplish is done by enabling the sick patient to get the benefit of exercise in the open air. In dealing with young subjects, the gaining of time is of importance, for when growth has ceased and the tissues have hardened and the bones have arrived at maturity, the liability to this form of disease ceases. If we can preserve the tissue until then from destruction, the joint will heal and thereafter render its master good service.

A NEW METHOD OF REDUCING DISLOCATION OF THE HIP.

From the *Canada Medical Record*, Sept., 1884:—In the *Transactions of the Vt. Med. Soc.*, Dr. S. J. Allen writes: "One day in the month of March, 1841, * * * while a student of medicine, * * * (dislocation of the dorsum.) "Grasping the leg with my right hand and the thigh with my left, I flexed the leg upon the thigh at right angles with the body. The old lady, for thus I considered her, although but forty, complained that I hurt her badly, and somehow the limb became fixed in the position, and could not be moved. It seemed locked, and could not be moved without considerable force and pain. I immediately stepped upon the bed, and standing with her limbs between my own limbs, and placing the dorsum between my own limbs, and placing the dorsum of her foot against my nates, with my right hand under the bend of her knee, I lifted her hips from the bed, holding her steadily in that position less than half a minute, when the head of the bone slipped into the socket, accompanied by that peculiar audible shock which so delights the surgeon's ear."

"July 16, 1872, I was called in consultation with Dr. Sperry, of West Hartford, Vt., in the case of a French Canadian, Lewis Baumhoe, with dislocation of the right femur upon the dorsum ilii. When I arrived Dr. Sperry asked me if I had my pulleys. I answered, that I had the pulleys that the Almighty furnished me with. Said the doctor, 'You can't set the legs without pulleys.' I answered that I could try. After the patient was chloroformed, the whole muscular system being relaxed. I stepped upon the bed, and flexed the leg upon the thigh, with the thigh at right-angles with the body, and, placing his foot between my legs, with its dorsum against my nates, and my right arm beneath the flexed knee, I lifted his hips well from the bed, and held them immovable in that position less than

one-half minute, when the head of the thigh bone returned into the socket with the usual audible sound.

"By this method, the lower part of the body is lifted well from the table or bed, and held immovable. The weight of the hips and opposite leg rotates the body outward, producing just sufficient abduction and distension to quietly draw the head of the femur through the slit in the capsular ligament, and direct it into the acetabulum. By this method no further violence is done to the soft parts about the joint; the head of the femur being drawn directly back through the rent in the capsular ligament without increasing its laceration in the least, which no other method *can* claim.

"One word in regard to other forms of dislocation of the hip. The dislocation into the ischiatic notch is a mere continuation of the dorsal form; the head of this bone being thrown simply further from the socket, it is evident that this method will quite as readily reduce this form of luxation.

"The foregoing cases, it will be observed, are all the cases of dislocation of the *dorsum ilii*, but at the same time we should remember that luxation on the *dorsum* is the type of dislocations of the femur, and that before reduction is accomplished in the other and rarer forms, the head of the thigh bone must be thrown on the *dorsum* before it can be returned to the acetabulum. Indeed, it is not uncommon for the head of the femur to be changed from one position to the other several times during the manipulations before it can be reduced by the method of Dr. Nathan Smith. In my method the *automatic* principle is evident. The patient, being placed and held in a certain position, sets his own dislocation, thereby making him '*particeps criminis*' in case of the suit for malpractice."

FUNCTIONAL AFFECTIONS OF JOINTS.

By E. H. BRADFORD, M.D., of Boston.

From the *Boston Med. and Surg. Jour.*, Oct. 16, 1884:—In contrast to cases with definite organic changes and the resulting impairment of usefulness, a class of joint affections presenting impairment of function without evidence of organic change is of interest.

The term "hysterical" is commonly used to describe this class, a term which, meaning nothing, frequently misleads, implying as it does a group of concomitant symptoms not always present. The compound word "neuro-mimesis" has also been employed, but suggests feigning, which is frequently not the case. "Functional," used in this way, signifies simply what is known to exist, namely, an impairment of the usefulness of the member without any hypothesis as yet problematical as to the cause of the disorders.

Dr. Bradford then gives the histories of eleven cases, and says: The diagnosis is sometimes quite difficult, and the details vary necessarily in each case. In some cases a diagnosis cannot be made on a single examination. As a rule, however, the recognition of purely functional affections can be based on the absence of the positive symptoms of joint disease and on the medical inconsistencies of the symptoms present.

Muscular atrophy is present in an early stage of true affections of a joint, even when the disability of the limb is slight. A marked diminution of faradic electrical contractility of the muscles is also present in joint affections at a comparatively early date in the history of the disease. In the so-called hysterical affections atrophy is only seen where there has been a marked disuse of the member, and the diminution of the faradic electrical contractility corresponds to the amount of muscular atrophy. Furthermore, in true joint affections a certain proportionate relation exists at the different stages of the affection between the symptoms of pain, tenderness, position of limb, amount of stiffness, and the way in which the limb is moved. In the functional troubles of the joints this relative proportion is not preserved. More limping, or muscular spasm, or pain is present than would be expected at a certain stage of a true arthritis indicated by the position of the limb or the limp in gait—or the reverse may be true.

The treatment should be the reverse of routine, and necessarily equally good results will be brought about by impressions produced in different

ways. Of cases here reported, where treatment was attempted, the basis of it was the acceptance of the fact that the symptoms indicated to the patient an actual and not an assumed condition. This condition was met with the enforcement of rigid rules, followed by a gradual relaxation of these rules and a gradual enlargement of the scope of action as the patient accepted the ability of freer action. In the severer cases absolute isolation from the indulgent atmosphere of sympathizing friends is essential. The patient must be reduced to an infantile state and gradually trained to exertion and endurance. Of course in lighter cases such extreme discipline is not necessary. Massage, electricity, ice, and heat to the spine, forced feeding are of undoubted value in certain cases, but the writer is doubtful whether they are to be looked upon as direct remedial agents and not rather as mental alteratives, supplying new sensations, or temporizing agents, while the nervous system is gaining its poise. Purely local treatment, such as cauterization, counter-irritation, is usually harmful as it concentrates the patient's attention upon local sensations, and appliances are to be avoided except in certain cases to temporarily correct vicious positions.

GREEN STRAMONIUM LEAVES IN PAINFUL JOINT AFFECTIONS.

Dr. HAL C. WYMAN, of Detroit, reports in the *Medical Record*, that he has found the topical application of fresh stramonium leaves to excel all other treatment heretofore employed by him for the relief of the pain of joint disease, of whatever nature. The application is also valuable, he claims, as an antiphlogistic in acute arthritis. It is his custom to keep the painful joint enveloped in the leaves for a period of twenty-four hours, when fresh leaves are to be applied. Sometimes he bruises the leaves in a mortar, and applies them in the form of a paste, although he has not been able to discover any special advantage from this form of their application. The leaves, properly applied shut out the air and prevent surface evaporation. Profuse perspiration from the skin over the joint follows, and the pain and swelling usually vanish. The great drawback to this treatment lies in the fact that it can be carried out only in the season during which stramonium is green, and in sections in which the plant grows.—*Medical Age*, Oct. 10, 1884.

TREATMENT OF SNAKE-BITE BY THE EXPLOSIVE CAUTERY.

Surgeon T. G. WILCOX, U. S. Army, reports the following case in the *Boston Med. and Surg. Jour.*: The recent reports of fatal cases of snake-bite induce me to invite attention to a method adopted and found successful in the case of a soldier of troop I, Fourth Cavalry, at Camp Supply, Indian Territory, in the fall of 1878.

The patient was struck upon the dorsum of third phalanx of the forefinger while engaged in gathering wild grapes. He reached me very soon after the occurrence, probably not more than ten minutes. The surface about the fang puncture was slightly moistened and as much gunpowder as could be retained placed on it. The powder was then ignited, the wound scarified, and powder again ignited upon it; then a light linsed poultice sprinkled with tinct. opii completed the dressing. Brandy was administered freely, and the patient soon fell asleep. The finger and hand were considerably swollen and discolored. There was slight nausea and depression, all of which soon passed off, and the man recovered.

I had learned of a case occurring among the Indians a short time before this, which was successfully treated by the explosive cautery, followed by a poultice of the chewed root of a species of chenopodium. No stimulants. In this case, that of a young squaw, the wound was on the leg.

This cautery is rapid, painless, and thorough, and if quickly applied, appears to afford the best chances for recovery.

GLYCERITE OF IODOFORM IN COLD ABSCESSSES.

From an editorial in the *Medical News*, Nov. 1, 1884:—Among the knotty problems of surgical therapeutics is the management of cold, chronic, or

scrofulous abscesses, especially those of osteopathic origin. Even at the present day, not a few surgeons adhere to the tradition of leaving such collections unopened until they are on the point of bursting, and it need scarcely be added that the advocates of this exploded conservatism have no faith in antiseptic precautions. Unless we greatly mistake, the recognized procedure with modern surgeons is to open abscesses dependent upon carious bone by an early, free, and dependent incision, wash out the cavity with a germicidal agent, and provide for adequate drainage.

The aseptic incision and drainage of cold abscesses are, however, impracticable in walking cases, as the patient who relies upon himself or others, not surgeons or skilled nurses, to apply the dressings, is constantly exposed to the dangers arising from the putrefaction of the discharge. Hence, the plan of managing such purulent collections by the injection of an emulsion of iodoform, to which attention was first directed by Mikulicz, and the good results of which are recorded by Fränkel is entitled to extended trial.

The emulsion used consisted of ten grammes of iodoform to one hundred grammes of glycerine, of which thirty grammes, containing about forty grains of iodoform, constituted the average injection, and, as a rule, only one application was necessary. In the most favorable of the twenty cases observed in Billroth's clinic, which were not common, there were no signs of reaction, and the wall of the cavity shrank in from two to three weeks, without the patient being confined to his bed for a single day. In another class of cases, at the end of a month there appeared to have been no diminution in the size of the swelling; and in still another group, without there having been any very appreciable change in the volume, the less distinct fluctuation and greater firmness to the touch indicated that the shrinkage of the membrane surrounding the pus was slowly going on. In both of these classes another injection sufficed, as a rule, to effect a cure.

The operation itself is conducted with the largest canula of Dieulafoy's apparatus, through which the pus is evacuated and the emulsion injected. The small wound is covered with iodoform gauze, and gentle compression is made with a roller.

CAPILLARY DRAINAGE.

By THOMAS M. MARKOE, M.D., Visiting Surgeon to New York Hospital.

From the proceedings of the *N. Y. Surg. Soc.*, Oct. 14, 1884:—Dr. Markoe presented a case more especially to have opportunity to say a word about a method of managing surgical wounds which had given him great satisfaction, and which he believed had not been so extensively recognized as it deserved to be. Surgeons had for years used capillary drainage in the shape of horse-hair, and in the olden times silk, and more recently in the shape of catgut leash; yet he believed that very few surgeons had much confidence in the method for large wounds, it having been used commonly for small wounds, and particularly for wounds of the scalp—a single thread or two of catgut being placed in the wound as a drain, the wounds thus treated doing extremely well. But a good many surgeons abroad, and some here, had used the method in the treatment of larger wounds, and had found it satisfactory. He had himself felt that the method had certain advantages which were worthy of attention. In the first place, it exerted a positive force in draining out from the cavity of the wound any fluids which might be retained there. If the drain were in a dependent position, the capillary force exerted by the leash would be almost as powerful as that of a siphon. The moment it was applied it would be seen that drainage commenced, taking place along the sides and between the strands of catgut. The other features of the dressing, perhaps, presented nothing unusual. Careful apposition being very important, iodoform and bichloride gauze with borated cotton externally completed the dressing. Dr. Markoe then related some cases showing the advantages possessed by this form of drainage.

The President, Dr. R. F. Weir, had used the capillary drainage, both as composed of hair and of catgut, and so long as the wound was fresh and the discharge serous the capillary action did well, but so soon as the secretions

became thick it did not work; the strands became glued together and the capillary action ceased. He knew this also to have been the experience of many other surgeons. He had employed it in large wounds, as in breast amputations, and certainly had not been as well satisfied with it as with the rubber or bone drain.

Dr. H. B. Sands thought the cases reported by Dr. Markoe afforded a striking illustration of the advantages of a dressing which offers no obstacle to union by first intention. He believed that had rubber drains been employed, the excellent results reported could not have been obtained. There certainly would have remained, for a time, a granulating, if not a suppurating space along the course of the drainage-tube. He should say that if it was probable that a wound would heal only by granulation it would be desirable to use a rubber drain. But if the case was one in which primary union might be anticipated, a soluble drain would be preferable. He did not feel quite certain as to the capillary action of the catgut drain. According to his experience, after it had been in place a short time it became quite soft, the separate strands became agglutinated to one another, and capillary action was diminished or arrested. Regarding the comparative value of this and the decalcified bone drainage-tube, he doubted whether the former possessed any superiority.

PROPHYLAXIS OF MALPRACTICE SUITS.

The plan of requiring of the patient, or his legal representative, a stipulation in writing and executed in due legal form, by which the surgeon is exempted from all responsibility for any untoward results which might follow his connection with the case, has been suggested as an easy solution of the difficulty. This, however, has also been discovered to be impracticable on the ground of "public policy." A man may not barter his legal rights or those which descend from him to those dependent on him. An employé, for instance, cannot relieve a manufacturing firm from responsibility for any accident which he may suffer through defective machinery, negligence on the part of other employées, or other avoidable cause. A common carrier cannot limit his common law liability for the results of his negligence or misconduct, nor does the law allow a passenger to assign his right to hold him to account. The law, very humanely, prevents a man from doing himself and his dependents a wrong in these matters, and does not permit him to submit himself a willing sacrifice to ignorance, incompetence, or negligence. Were it possible for a practitioner of medicine or surgery to guard against suits for malpractice through previous agreement with his patient, it would not require any great degree of prescience to picture the result. It would make the public the prey of the incompetence and quackery which exists, and which must continue to exist even under the greatest possible precautions to prevent them.

Dr. T. B. Nichols, of Plattsburgh, N. Y., writes:—Your remarks on "The Prophylaxis of Malpractice Suits," that appeared in your issue of August 25th, brings to my remembrance a bill which was brought before the Legislature of the State of New York some years since, the intent of which was to compel the complainants in a suit for malpractice, to give bonds before the suit could be entertained, in surety for all damages in court, or that might accrue to the defendant in such suit, in case the complaint was not sustained. Why the proposed act failed to become a law is now forgotten, but it is fair to presume that the physicians in the State had no hand in procuring its defeat.—*Medical Age*, Sept. 25, 1884.

[The Act failed to become a law because it was found that it would be unconstitutional.—Ed.]

BURNS AND SCALDS.

The Carron-oil treatment of burns is so greasy, and therefore so disagreeable, that it is with pleasure that we note from *Memorabilien*, that Dr. Cramer treats slight degrees of burns by means of compression. He applies a

layer of wadding and over this an elastic bandage, so as to make firm and even pressure over the whole of the injured surface. The compression is to be maintained from three to fifteen hours, according to the intensity of the burn, and then a less degree of pressure kept up until new epidermis has formed.

In the *Æsclepiad* the treatment of burns and scalds by crushed ice and lard is warmly advocated by Dr. Benjamin W. Richardson. To put the method into practice, ice is well crushed, or scraped as dry as possible, then fresh lard is admixed until a broken paste is formed. The mass is then put into a thin cambric bag, laid upon the burn or scald, and replaced as required. The pain is rapidly eased, and its return is the call for the repetition of the remedy. This mode of treatment is as scientific as it is simple. It saves at once the fever incident to pain, and it leaves very little contraction of surface.—*Med. and Surg. Reporter*, Sept. 27, 1884.

RESPIRATORY ORGANS.

REMOVAL OF NASAL POLYPI.

By D. FLEISCHMAN, M.D., Albany, N. Y.

From the *Medical Annals*, September, 1884:—Of the various modes of operating upon nasal polypi, that by forceps has been at times the exclusive method, and to-day is certainly the most generally practiced; and yet it seems to me at once harsh, unsurgical and inefficient. The introduction and manipulation of the forceps causes pain; the attempts, successful or not, to grasp the growth, lacerate the mucous membrane, and hemorrhage, often severe, results. It is almost impossible in many cases to grasp the pedicle of the tumor when situated beneath the turbinated bones; and even under the most favorable circumstances of good illumination the forceps operation is too often a blind attempt in sensitive cavities to extract whatever the jaws of the forceps may seize.

Injection into the substance of the growths of acetic acid, corrosive sublimate, tincture of iodine, alcohol, etc., has been practiced; but the long continuance of the treatment, because but few polypi can be treated at any time, the unpleasant odor and discharge during the period of sloughing, the inefficiency of the method, because of the impossibility of destroying the pedicle of the polypi, together with the pain, render this mode objectionable. The application of various astringents can have but little effect upon the growths, whatever it may have upon an attendant catarrhal condition.

The cold-wire snare, of which class Jarvis' ecraseur is the best, simpler, more effective and free from the inflammatory reaction which often attends the galvano-cautery loop, gives the best results in the removal of nasal polypi. The advantages of the snare are, comparative painlessness, trifling hemorrhage, the operation can be repeated again and again, and, above all, its efficiency. Cauterizing the part from which the polypus has been removed with nitric or acetic acid seems judicious in many, though not in all, instances.

As to recurrence, it is impossible to speak positively in every case. Bosworth says (*Med. Record*, Jan., 1883): "Of the thirty-five cases referred to" (operated upon during the previous year) "there has been but one of recurrence. This was a patient whose turbinated bone had been much torn and mutilated by the forceps. It is too early, perhaps, to assert that the other cases are cured. Many of them I have examined since operating and found no evidence of disease."

I believe that recurrence will, not necessarily be manifested within a year after operating. In one of my cases there was no recurrence until eleven months. The more thoroughly the operation is performed the more favorable the prognosis.

OPERATIVE OPENING OF PULMONARY CAVITIES.

Before the late International Medical Congress, Dr. E. Bull (Christiania), in a paper on this subject, laid down the following propositions:

1. Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the chest-wall, should be treated in the same way as pleural empyema.

2. The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately.

3. Echinococci, and 4, foreign bodies in the lung, are to be treated in a similar manner.

5. In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition.

6. In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with the view of improving the condition of the patient.

7. The operative puncture of a pulmonary fistula is justifiable as a palliative measure.

8. In cases where diagnosis cannot be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it.

9. Adhesion to the layers of the pleura, though not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities.

10. Amyloid degeneration is not an absolute contra-indication to a palliative operation.

11. The use of the termo-cautery is to be recommended both for the opening of cavities, and for the destruction of diseased portions of lung-tissue.—*Med. and Surg. Reporter. Oct. 11, 1884.*

NASO-PHARYNGEAL FIBRO-SARCOMA REMOVED WITH GALVANO-CAUTERY ÉCRASEUR.

By R. P. LINCOLN, M.D., New York.

From the proceedings of the *N. Y. Path. Soc.*, in the *Medical Record*, Oct. 25, 1884.—The patient, a boy sixteen years of age, first noticed obstruction to nasal respiration in the autumn of 1881. At that time, and ever since, he has had frequent hemorrhages, the blood flowing first from the right nostril, but soon from both nostrils and the mouth.

In the spring of 1882 the nostril was stopped up, and within a year of this time both were occluded.

In November, 1882, an attempt was made to remove the tumor by means of ordinary polypus-forceps, but was abandoned without accomplishing the desired result. I first saw the patient July 12, when he was referred to me by Dr. Satterthwaite. At that time there was a slight but noticeable fullness of the right side of the nose. The right nostril was filled to its margin with a growth covered with mucous membrane of a pink color. The septum nasi was crowded well over to the left. On examining through the mouth, the soft palate was seen deflected to a perpendicular, extending a little below its border, and filling the post-nasal space and pharynx was a tumor of the same appearance as that in the nostril, but with its inferior pear-shaped base rough and ulcerated in spots.

A further examination proved that the two presenting masses were parts of the same tumor, and attached to the vault of the pharynx and roof of the right nostril with a large pedicle and extensive attachment. As the growth was very large, exceedingly vascular, and evidently growing rapidly, I advised an immediate operation with the galvano-cautery écraseur, without the preliminary treatment by electrolysis, which I have heretofore practiced in similar cases treated and reported by me. I also insisted that subsequently the stump should be thoroughly destroyed by means of the galvano-cautery.

This operation was performed successfully July 22, assisted by Dr. Satterthwaite, Goodwillie and McCarroll.

The tumor measured in its greatest length four inches, and two and a half in thickness, the latter being the portion that extended into the pharynx, while the former was the part that protruded into the nostril. The cauterized surface measured two inches by one and three-fourths. Its weight, five days after the operation, was two ounces and three-fourths.

Dr. George R. Elliott kindly made a microscopic examination of the tumor and pronounced it a fibro-sarcoma.

A week after the operation I examined the patient at my office, and found the cut surface well cleared off and presenting an apparently healthy wound, and appointed the 1st of September to apply the galvano-cautery to the seat of the growth, so as to completely destroy all abnormal tissue.

The President, Dr. Geo. F. Shrady, remarked that there was no comparison between the operation described by Dr. Lincoln and that with preliminary tracheotomy, tamponing the pharynx, and removing the upper jaw. There could be no argument against the success obtained in Dr. Lincoln's case. In some cases, however, the wire can not be applied to the base of the tumor so as to grasp it.

The great trouble with most of these cases is that they do not reach the general surgeon until they are beyond all hope of removal by the wire, and they are also in a very unfavorable condition for the radical operation.

Dr. Satterthwaite, in his hospital notes, had not found the records of a case in which the disease had not returned and the patients had been subject to hemorrhages, etc. But the patient upon whom Dr. Lincoln operated and removed the specimen presented had gained flesh remarkably, and had not had any hemorrhages whatever. In these cases the galvano-cautery is peculiarly successful because it arrests hemorrhages and destroys the tissues to such an extent that if the growth return, hemorrhage is not likely to ensue from the use of the wire. He thought too much could not be said in favor of this mode of operating.

The President remarked that he was so favorably impressed with this operation that he should not try any other without first attempting to use the wire, and further, that no small degree of credit was due to Dr. Lincoln for demonstrating this comparatively simple and yet radical operation.

EPISTAXIS.

By D. N. RANKIN, M.D., Allegheny City, Pa., Associate Phys. to (Nose, Throat, and Chest Department) Pittsburgh Dispensary.

From the *Jour. Amer. Med. Ass'n.*, Oct. 25, 1884.—We must all admit, that our efforts to check this form of hemorrhage with the usual astringents locally and generally, have been far from satisfactory. I do not wish to be understood that the astringents should all be expunged from the list of therapeutics in this disease, as there are some very valuable ones. Of these I would mention ergot in its various forms, to be used locally, generally, and hypodermically. In passive epistaxis I have successfully used bougies composed of ergotin, three grains; ext. belladonna, one-third of a grain, and cocoa butter q. s. Solution of subsulphate of iron, used both locally and generally, I have found very effective as an hæmostatic in a great many cases of this kind of hemorrhage. In my hands the salicylate of zinc, nitrate of silver, glycerole of tannic acid, chromic acid, and tannate of iron have proven to be very active local astringents. Hot water at a temperature ranging from 100° to 110° F. as a remedy, has long been extensively used by the profession, but not until recently have its hæmostatic qualities been known. As a means of compression, the great success with which the sponge and seatangle tents have been used in uterine diseases suggested to my mind that they could be well utilized in epistaxis, I therefore some two years ago, commenced their use, and have no hesitation in saying they have answered my most sanguine expectations. My plan of using them is the following:

When a case of nose-bleed is presented, I first dip the tent into glycerole of tannic acid; introduce it in the bleeding nostril, and let it remain for twenty-four hours at least. In vinegar, as a local astringent, we perhaps have more of the styptic qualities, especially for the relief of active epistaxis, than are to be found in any of the other astringents.

Packing the nostrils with hæmostatic cotton, by means of Bellocq's canula is often deemed necessary. When the source of hæmorrhage can be discovered, the galvano-cautery is certainly a great addition to our armamentarium.

FOREIGN BODIES IN THE AIR-PASSAGES.

By J. R. WEIST, M.D., Richmond, Ind.

In a paper read before the *Amer. Surg. Ass'n.*, and abstracted in the *Weekly Med. Review*, Sept. 27, 1884, we find the following: The paper contained 1,000 tabulated cases, as the result of a desire to test the accuracy of the dictum in text-books, that gives a "foreign body in the air-passages the sooner the wind-pipe is opened the better."

The cases previously tabulated justified the above quoted dictum, as those published by Prof. Gross added to those published by Durham, gave a total of 722 cases. Of those operated upon practically 77 per cent. recovered, whilst of those not operated upon only 60 per cent. recovered. As early as 1867, Dr. Weist had published a list of 163 cases, the result of which was greatly at variance with the above, and to investigate the question more thoroughly he addressed a circular to the profession asking for reports of cases.

The following are the general principles which W. suggests to the profession for their consideration. (1) When a foreign body is lodged either in the larynx, trachea, or bronchi, the use of emetics, or similar means should not be employed, as they increase the suffering of the patient and do not increase his chances of recovery. (2) Inversion of the body and succussion are dangerous and should not be practiced unless the wind-pipe has been previously opened. (3) The presence simply of a foreign body in the larynx, trachea, or bronchi, does not make bronchotomy necessary. (4) While a foreign body causes no dangerous symptoms, bronchotomy should not be performed. (5) While a foreign body remains fixed in the trachea or bronchi as a general rule, bronchotomy should not be practiced. (6) When symptoms of suffocation are present or occur at frequent intervals, bronchotomy should be resorted to without delay. (7) When the foreign body is lodged in the larynx, there being no paroxysm of strangulation, but an increasing difficulty of respiration from œdema or inflammation, bronchotomy is demanded. (8) When the foreign body is moveable in the trachea and excites frequent attacks of strangulation, bronchotomy should be performed.

CIRCULATORY ORGANS.

ANEURYSM OF THE RIGHT SUBCLAVIAN ARTERY INVOLVING THE INNOMINATE.

Dr. PAUL H. KRETZSCHMAR, presented to the *Brooklyn Path. Soc. (N. Y. Med. Jour., Nov. 15, 1884)* a specimen with the following interesting points in the clinical history: (1.) The fact that the diagnosis was made more than three years before the fatal termination took place. (2.) The decided and beneficial influence which large doses of iodide of potassium had on the disease, especially the relief from the most severe pain, which was obtained repeatedly and almost instantaneously after the use of the drug. (3.) The large size which the tumor acquired so rapidly after the first rib had been absorbed.

The very favorable results which he had obtained from the use of large doses of iodide of potassium in cases of aneurysm induced him to put the patient on the use of half-drachm doses of the drug every two hours, and to order perfect and absolute rest. This treatment was continued for about three months, and the patient showed marked signs of improvement. The severe pain, which previously had prevented sleep, disappeared entirely, and the troublesome hoarseness improved. In fact, he did so well that he lost sight of him for six or seven months.

GUN-SHOT WOUND OF THE HEART.

Dr. THOMAS W. SMITH, of Bethel Academy, Va., reports a case as follows in the *Virginia Med. Monthly*, Sept., 1884:—August 21st, 1884, at 4 p.m., private Ryan, of the United States Artillery, received a pistol wound of the chest.

External examination revealed a wound of the chest about the middle of the sternum and at the junction of the ensiform cartilage. There was no wound of exit. He complained of pain in the back, but did not locate it; he showed but little muscular weakness. His countenance was natural in appearance. Pulse 120 per minute—irregular and dicrotic. Respiration thirty-five to forty per minute, with an audible groan at the end of each respiration. He was restless and slept but little during the night.

August 22d, 6 a.m. Pulse 130 and respirations thirty-five per minute. There was a slight oozing of dark fluid from the wound.

August 23d, 6.30 a.m. He complained of but little pain; countenance pale; temperature normal; pulse 115; respiration thirty-five; dullness increased over right lung. At 1.30 p.m., patient ate an egg, drank a glass of milk and took stimulants. At 5 p.m., pulse 120 and very weak, patient got out of bed and walked across the room; at 7 o'clock p.m. he commenced sinking and died at 8 p.m.—fifty-one hours after being shot. His mind was clear up to fifteen minutes of death.

The *post-mortem* examination revealed an opening in the chest one-third of an inch in diameter, around which the skin was blackened. Upon removing the tissues, there was a small extravasation of blood found in them. The wound was through the sternum, one-half inch above the junction of the ensiform cartilage and one-half of an inch to the left of the middle line of the bone. The sternum was removed, when there was brought to view much infiltration in the tissues of the anterior mediastinum. The ball, deviating to the right in passing through the sternum, penetrated the pericardium, which upon being opened showed the bullet hole in the right ventricle, two and one-half inches from the apex of the heart. Upon removing the heart, we found the ball had passed through the right ventricle up through the auriculo-ventricular opening and out of the posterior wall of auricle. There was about four ounces of clotted blood found in the cavity of the pericardium, and well marked endocarditis. Further examination revealed the fact that the ball had passed through the posterior mediastinum, escaping large blood vessels and nerves, grazing the muscular coat of the œsophagus, striking the side of the body of the ninth dorsal vertebra, piercing the pleura, passing over the ninth rib, and was found in the intercostal muscles between the eighth and ninth ribs, three inches from the spinal column. The pleural cavity of right lung contained about forty ounces of blood, serum and coagulated lymph, the result of hemorrhage and inflammation. The surface of the lower half of the pleura was covered over with thick lymph. The lung was hepatized at its base. The left pleural cavity contained but a small amount of reddish fluid—the lung being perfectly healthy.

LIGATION OF THE COMMON FEMORAL ARTERY.

Dr. L. McLEAN TIFFANY, of Baltimore, in the *Medical News*, in reviewing recorded cases, is led to the following conclusions: "(1.) Ligation of the common femoral in continuity for distal wound is attended with great mortality, and should not be substituted for the application of ligatures

above and below the point wounded. (2.) Ligation of the common femoral for aneurysm, or elephantiasis, is proper. (3.) The crural sheath should be freely opened, and the vessel carefully examined for the origin of the profunda and epigastric, the ligature not to be tied within half or three-quarters of an inch of either. (4.) Half or three-quarters of an inch below Poupart's ligament will probably be the most favorite locality for the ligature. (5.) The presence of a small branch near the seat of the ligature does not contraindicate the operation; such branch should be also tied."—*Chicago Med. News*, Oct. 1884.

ANEURYSM OF BOTH COMMON CAROTIDS.—LIGATION AND CURE.

From an editorial in the *St. Louis Courier of Medicine*, Oct., 1884:—Owing to the anomalies sometimes present in the circle of Willis, and the important part in its formation taken by the carotid arteries, the ligation of these trunks is surrounded with more danger than of those elsewhere in the arterial system. Cases of softening of an entire hemisphere of the brain have been observed, that were due to obliteration of the internal carotid near its bifurcation; so records Charcot in his published lectures upon localization in diseases of the brain. In that most important arterial anastomosis, the communicating arteries may be merely filiform and entirely inadequate to re-establish circulation in case of closure of a main contributing trunk. It has been observed that one carotid gave off the anterior communicating and anterior cerebral of the opposite side as well, a minute channel only uniting it with its proper carotid. In such a case ligation of the main feeder of the hemispheres would most probably have been fatal. It should also be borne in mind, as insisted upon by Charcot and Duret, that arteries supplying the great ganglia at the base of the brain do not anastomose with those of the cortex. Ligation of both carotids evidently is an operation attended with great risk. Dr. Riegner details (*Centralblatt f. Chir.*, No. 26, 1884) such a case, in which the vessels were ligated with an interval between the operations of over a year.

A merchant aged 54, otherwise in good health, excepting hoarseness and difficult swallowing, applied for relief from an aneurysm of the left common carotid at the level of the larynx. The operation of ligation resulted in no symptoms on the part of the brain. A year and a half later the patient reappeared with an aneurysm about the size of a pigeon's egg on the right carotid. The larynx was pressed over to the left, the patient was very cyanotic, complained of difficult deglutition, felt very weak and was much depressed.

The patient was placed on his back and an ice bag was kept upon the tumor; thus treated he gradually bore the pressure for five minutes without the brain symptoms. On the fifth day the ligature was applied, pulsation ceased at once in the sac, the pupils were dilated to the maximum, but soon the right became the smaller; threatening facial cyanosis came on, but gradually passed off in twenty minutes. After the patient recovered from the anesthetic he complained of no cerebral disturbance; the pupils became of equal size the same day and the cyanosis disappeared entirely. The next afternoon there was light delirium, and as it passed, some motor paralysis of the left arm, which also disappeared the following day. In eighteen days from time of the operation the case was dismissed cured.

INTRAVENOUS INJECTIONS.

From an editorial in the *Medical News*, Sept. 20, 1884:—Within the past few months, so many reports of success abroad, by the intravenous injection of a solution of common salt and carbonate of sodium, representing the salines of the blood-plasma, have reached us, that it seems almost a duty for us to undertake new experiments in this country, in order to test the practical value of so plausible a method for obviating the tendency to death in cases of profuse hemorrhage.

In a remarkable instance reported among others by Prof. Mikulicz, of Cracow, a young man, who had lost so much blood from a wound in the brachial artery that his pulse was barely perceptible and was beating at the rate of about one hundred and thirty per minute, was operated on by the gradual injection of twenty ounces (600 c. c.) of the compound salt solution, with immediate and obvious benefit and ultimate cure. Dr. Fux, of Laibach, records the case of another youth, who, in consequence of repeated hemorrhages from a neglected wound in the hand, had become profoundly anæmic, but was satisfactorily prepared for successful operation upon the injured member by an intravenous injection of eight and a half ounces (250 c. c.) of salt solution. Dr. Fux, as a result of his experience, fully endorses the assertion of Szuman that the injection of salt solution in acute general anæmia is an enormous advance in therapeutics, and deserves to be held in very high esteem as a surgical resource in threatened death from hemorrhage.

The solution employed by Mikulicz was composed of one part of carbonate of sodium, six parts of common salt, and one thousand parts of distilled or twice-boiled water, warmed in a bottle of the temperature of 104° F. (40° Cent.), and injected into the median basilic vein, by the mere weight of a column of the fluid twenty inches in height, contained in a funnel and rubber tube attached to the canula, which had been inserted into the vein. Great care was taken to insure complete antisepsis by transmitting a five per cent. carbolic acid solution, to wash out the apparatus previously, and the amount of salt solution slowly injected varied from seventeen to fifty ounces (500 to 1500 c. c.).

It seems to be proved by experiments upon animals, and also by clinical facts already in our possession, that the mortality in most cases of excessive loss of blood does not occur from scarcity of red corpuscles chiefly, but in consequence of the total bulk of the vital fluid being so far diminished that the vascular system, and especially the cerebral and coronary arteries, are not kept full enough to enable the organs concerned duly to perform their functions.

If the favorable results already reported are confirmed by other observations under varying conditions, we believe that the operation of "Kochsalzinfusion" will speedily assume an important place, as a remedial measure against death from excessive loss of blood. Perhaps, indeed, it may ultimately take rank among the four or five surgical procedures, such as that of tracheotomy, and the operation for relieving strangulated hernia, which every physician should keep himself both *mentally* and *instrumentally prepared*, to perform at a moment's notice. It is applicable not only in cases of external wounds, but also in internal hemorrhage from gastric or intestinal ulceration, and in the uterine hemorrhage of abortion, or of placenta prævia, or from inertia after parturition is accomplished.

Dr. W. T. BULL, of New York, comments on the above editorial article and says, (*Med. News*, Oct. 4, 1884:—It will, perhaps, enable some of our readers to try the operation, if you will permit me to quote the last two paragraphs of the article referred to. They are as follows:—[See EPILOGUE, vol. v., p. 81.—ED.]

"In order to have ready a vessel convenient for the operation, Mr. Ford, of Caswell, Hazard & Co., has made for me a tubulated bottle (graduated), with rubber tubing, to which a canula can be attached by means of a metallic coupling.

"The salts are kept in a small phial. A trocar and also a blunt stylet are added, in order that one may puncture the vein with the former, or after opening it guide the canula into it on the latter instrument. An ordinary glass or metallic irrigator, or a funnel with tubing attached will do about as well. Let the solution (water, $\frac{3}{4}$ xxij; chloride of sodium, 3 jss; carbonate of soda, gr. xv), warmed to 100° F., flow from a height of two or three feet in the course of fifteen or twenty minutes. The canula should be no larger than a medium-sized aspirator needle, one-sixteenth inch in diameter; the apparatus disinfected with three per cent. solution of carbolic acid, and antiseptic precautions observed in operating. Choose the arm in which a well-distended vein can be seen at the bend of the elbow, and failing to find one secure the radial artery, and inject the fluid into its central end."

ALIMENTARY ORGANS.

COLOTOMY, WITH A COLLECTION OF 351 CASES.

By WILMER RIDGWAY BATT, M.D., of Phoenixville, Pa.

From the *Amer. Jour. Med. Sciences*, Oct., 1884.—It was Littre, in 1710, in the *Memoirs of the Academy of Sciences* (Paris, vol. x, p. 36.) who first suggested the idea of colotomy, and for imperforate anus. The operation was soon destined, however, to receive such attention, that it was adopted in a much wider field than was originally proposed.

No records are obtainable to show that Littre ever applied his operation to the living subject; and we are forced to believe that, to him at least, it lived only in theory. It was reserved, therefore, for Pillore, of Rouen, in 1776, after a lapse of over sixty years, to perform the first operation. He so far modified Littre's suggestion as to open the cæcum in the *right iliac region*. Owing to the dangers so appreciable to surgeons of that period, consequent upon the opening of the peritoneum, Callisen, in 1796, was led to present the suggestion of opening the descending colon by a vertical incision in the *left lumbar region*, through that portion of the bowel not covered with peritoneum. In the practice of this method upon the dead subject it appears that he failed in reaching the intestine without wounding the peritoneum, and subsequently abandoned the operation as impracticable.

Amussat, when attending the celebrated Broussais for scirrhus of the rectum, and in studying the methods proposed for the formation of an artificial anus, was induced to consider the advisability of opening the ascending colon by a *transverse* incision in the *right loin*, in contra-distinction to Callisen's method of vertical incision in the left.

Amussat, considering his operation a safe and justifiable one, performed it first on June 2, 1839, and subsequently reported six operations, by himself, in papers published between 1839 and 1841. In five of these he was successful.

Another method of opening the colon was practised by Fine, of Geneva, in 1797, who, while perhaps intending to open the small intestine by an incision in the *linea alba* in the umbilical region, opened the transverse colon.

To the honor and credit of American surgeons it should here be remembered that W. Ashmead (reported in *Trans. of the College of Phys. of Phila.*, vol. i. p. 99, 1842), on March 15, 1838, in Philadelphia, for scirrhus disease of the rectum, opened the descending colon in the left lumbar region "by a vertical incision in the triangular space between the edges of the obliquus externus and latissimus dorsi muscles without injury to the peritoneum," and that for two years after he was not aware that Callisen had proposed the same method.

Dr. Batt gives the following analysis of cases. Of the 351 operations I have succeeded in collecting, 154 were performed for malignant diseases, 20 for fistula, 52 for imperforate anus, 40 for obstructions, 72 for stricture, 4 for ulceration, and 9 for miscellaneous causes. Of this number, there recovered 215, or 62 per cent.; while 132, or 38 per cent., proved fatal; the result in 4 cases being unrecorded. The number of operations performed after Amussat's method was 244, of which 165, or 68.4 per cent., recovered, and 77, or 31.6 per cent., proved fatal; the result in two cases being unknown. After Littre's method, 82 were performed, of which 38, or 46.9 per cent., recovered, and 43, or 53.1 per cent., proved fatal; the result in one case being unrecorded. After Callisen's method, 10 were operated upon, two of which recovered; 7 proved fatal, and one in which the result was not stated. Four cases were performed after Fine's method, all of which proved successful. Of the whole number, 160 were males, and 147 females; the sex in 44 cases not being given.

Of the 154 cases operated on for *malignant disease*, 105, or 68.4 per cent., recovered; 48, or 31.6 per cent., were fatal, and in one case the result was

not stated. The patients in 72 instances were males, in 74 females, and in 8 the sex was not recorded.

Of the 20 cases operated upon for *fistula*, 18, or 90 per cent., recovered, and 2 alone proved fatal.

Of the 53 cases operated upon for *imperforate anus*, 24, or 47.1 per cent., recovered, 27, or 52.9 per cent., were fatal; and the result in one case was not stated.

Of the 40 operations for *obstruction*, 19, or 50 per cent., recovered; 19 were fatal, and the result in two cases was not reported.

Of the 72 cases operated upon for *stricture*, 41, or 57.1 per cent., recovered, and 31, or 42.9 per cent., ended fatally.

Of the 4 operations performed for *ulceration*, 3 terminated in recovery, and 1 in death.

Of the nine patients operated upon for *various causes*, five recovered and four died.

From these statistics, it will be noticed that the proportion of recoveries is greatest in the case of *fistula*, and least so on the cases of *imperforate anus*; also [from the statistics in extenso] that more recoveries occurred after Amussat's operation than after Littre's.

The results obtained are fully substantiated by the statistics of other writers. Mr. Hawkins collected and analyzed, in 1852, 44 cases, being all that he was able to collect up to that time. Of this number, 23 recovered and 21 proved fatal.

Van Erckelens collected 262 cases, with 151 recoveries, and 109 deaths, and two cases in which the result was unknown.

These statistics show most conclusively that the dangers of the operation are very few, and that the number of recoveries depends very greatly upon the nature of the affection for which it is performed.

EXCISION OF A PIECE OF INTESTINE.—RECOVERY.

JOSEPH GRINDON, M.D., in the *St. Louis Courier of Medicine* for October, 1884, publishes the following interesting case: On June 28, at 3 p.m., M. L. a colored woman, æt. 30, four months advanced in pregnancy, was assaulted by her husband, who, drew his pocket-knife and inflicted upon her several wounds one of which was through the muscles and peritoneum into the abdominal cavity. Through this opening there had protruded probably between six and eight feet of small intestine, with mesentery and omentum.

In one of the foremost loops were to be seen three cuts or tears, all communicating with the lumen of the gut, and close to the mesenteric junction. The largest of these openings easily admitted the finger, the other two being much smaller, but through all there oozed blood and fluid feces. The condition of things here met with the observations of Dr. Parkes, of Chicago, in his recent experiments on dogs. He says, "Extravasation of the contents of the tube occurred in every case where the tube was wounded," and again, "Any perforation of the bowel, even a needle perforation, means extravasation."

These cuts were not clean incisions, but contused, lacerated wounds, presenting the appearance of having been inflicted with a dull weapon. There was considerable ecchymosis of the surrounding intestinal walls, as also into the adjoining portion of mesentery.

Assisted by Dr. W. M. McPheeters I proceeded to remove a section of the gut about two inches in length comprising the entire circumference and including all the injured portion. In trimming off along the mesenteric border a number of vessels were necessarily cut and tied. There was considerable eversion of the mucous membrane at each severed end; this was trimmed off with the scissors and the gut brought together. Twelve or fifteen sutures of ordinary surgeon's silk were used; the needle being each time carried through all the coats in each direction. An interrupted stitch was put in at the mesenteric border, one directly opposite, and one half way down on each side; between these was run a glover's suture. The free mesenteric edge was merely doubled over and left so.

The intestines were now well sponged off with clean water, no antiseptics of any kind being used, and returned to the cavity of the abdomen. The external wound was closed with a stout piece of silk passed through the entire thickness of the abdominal wall, a compress applied, and the patient dispatched to the City Hospital. During the operation she had received two dram doses of laudanum.

August 20.—She reported herself quite well and strong.

The points about this case to which the reader's attention may more particularly be called are: (1) The use of no antiseptic or germicide, except water. The surroundings were all of an unfavorable nature, the work being done in a back kitchen. It was a very hot day and the patient lay next to a hot stove. (2) The fact of the woman's being in the puerperal condition not interfering with the successful issue of the case. (8) The carrying of the sutures into the calibre of the gut, and not leaving the mucous lining untouched as recommended by Parkes and others. How was union here effected? Mr. George Pollock in Holmes' System of Surgery gives an explanation as follows: "If the margins of each end of the divided bowel are but accurately adjusted to each other, and maintained in perfect apposition by sutures (whether or not the mucous or serous surfaces be made to touch) the divided portions are united at first, *not* by any act of union *between* the surfaces in contact, but by the effusion of fibrin around the once separated, but now approximated and contiguous extremities; and thus does this fibrin not only maintain their conjunction, but it also, by adhesions, fixes the injured portion of the bowel to the adjacent surfaces of the peritoneum, either visceral or parietal." Mr. Travers, on the contrary, observes: "The opposed villous surfaces, so far as my observation goes, neither adhere nor become consolidated by granulation." Dr. Gross and Petrequin, however, arrived at the conclusion that union does occur between the edges of the divided mucous membrane. Dr. Parkes says, with others, that the stitch must always include peritoneum and muscle, but never go through the mucous membrane. We must, however, agree with Mr. Erichsen that, "This advice * * * is extremely difficult to follow." He continues: "The safer plan is doubtless to carry the suture through the whole thickness of the gut, bringing the stitches out at about one-sixth of an inch from the edge of the cut, in such a way that the serous surfaces are brought into apposition."

Another interesting question regards the final disposition of the sutures. What became of them or where did they go? Miller, Erichsen, Druiitt, Holmes, Gross, Ashhurst, and the weight of evidence teach that they pass into the bowel and are so cast out. I cannot do better than to quote again from Mr. Pollock: "This much, therefore, is evident; *First*, That soon after the application of a ligature or suture to any portion of the intestine, fibrin is effused on its surface, and the ligature becomes thus shut out from the peritoneal sac. *Secondly*, The ligature equally soon commences to destroy that portion of bowel which is surrounded by the silk. *Thirdly*, That as the mucous membrane, (forming one of the layers of that portion) dies, or ulcerates, it opens inward a path of escape for the ligature, which is only complete when each coat of the bit of intestine is entirely cut through; and, *Fourthly*, That this path opens *into* the bowel and not *from* it."

PERFORATION OF THE VERMIFORM APPENDIX.

By WILLIAM PEPPER, M.D., LL.D., Provost and Prof. of Theory and Prac. of Med. Univ. of Penn.

From the *Med. and Surg. Reporter*, Oct. 25, 1884:—Usually, the symptoms that mark these attacks located in the cæcum or appendix are sufficiently localized to call attention to the right iliac fossa. We divide these diseases into those which attack the cæcum, which are called typhilitis, those which attack the cellular tissue around the cæcum, which are called peri-typhilitis; and those which affect the appendix vermiformis. Sometimes all these parts are involved, while at other times only one of them is attacked. Typhilitis and peri-typhilitis, although bad enough, are far less serious than affections of the appendix. They begin with pain, usually distinctly marked in the

right iliac fossa, with vomiting and with evidence of intestinal irritation, followed by intestinal obstruction, with tenderness, possibly a distinct tumor in the right iliac fossa, distension of the belly, fever, rapid pulse, or in other words the symptoms of localized peritonitis, which has its location in the right iliac fossa. In the early stage they demand a rigid antiphlogistic treatment, and this frequently aborts the disease. If this plan is not adopted, the inflammation often runs on to suppuration, and then the abscess is to be opened early and drainage instituted.

When, however, the appendix is the seat of the inflammation, the disease runs a different course. Nearly always it will be found that the affection of the appendix has been preceded by the presence in that structure of a foreign body which has gained entrance, excited inflammation, and then cannot get out. The inflammation goes on to suppuration, and when the ulcer reaches the peritoneal surface the symptoms appear, and if perforation occurs, general peritonitis is developed. We have then a period usually of previous local disease, but the bowel symptoms may not be acute, or they may be very insidious.

When the appendix becomes the seat of ulceration, there is rarely, owing to the freedom of movement of this portion of the bowel, any attempt at the formation of a protecting wall. In the case of inflammation of the cæcum, a membrane is usually formed which prevents the escape of the pus into the abdominal cavity. In the midst of these fetid inflammatory products we found the appendix. It was very greatly discolored, and on picking it up, it presented two distinct perforations, and on pressing it, a body about the size of a cherry-stone was found in its cavity. [The results of an autopsy were given.]

In order to show the character of this concretion, I have had it embedded in parafine and a section made. From this section it is seen that it is laminated and is a concretion formed by the deposit of alternate layers of intestinal mucus and hardened fecal matter. The vast majority of bodies found in the appendix, which are described as foreign bodies, such as date stones, prune stones, cherry stones, and so on, would be found on careful examination to be formed from layers of mucus and fecal matter.

Let us return for a moment to what I said about the inevitably fatal termination of this affection. I have indicated how, in the case of typhilitis and peri-typhilitis, a favorable termination may, as a rule, be secured by proper and vigorous treatment. When you remember that in diseases of the appendix, there is scarcely any attempt made to limit the disease, and that as soon as ulceration and perforation take place, the inflammatory matters escape into the peritoneal cavity, and general peritonitis results, you can readily understand that the disease is necessarily fatal. What treatment could be resorted to? Of course, it occurs to you that if we knew that there was a concretion in the appendix, that as soon as symptoms showing that ulceration was progressing made their appearance, the belly should be opened and the appendix ligated and removed. This might be done in a certain number of cases with a reasonable amount of success. But how could this condition be suspected before the outbreak occurs? Who would dare to suggest such an occurrence from the slight and indefinite symptoms usually present? Probably in ninety-nine cases out of one hundred they would be entirely explained by an acute catarrhal attack. I say, who would dare, under these circumstances, to suggest such a serious complication? No one. It is only when perforation has occurred, and general peritonitis has developed, that you can recognize the nature of the trouble, but then the time for operating has gone by. The only thing that would afford any chance would be to open the abdomen, wash out the inflammatory matters, and attach the diseased appendix to the abdominal wall, as you would in operating in the case of internal strangulated hernia. I need not say that such an operation performed after these symptoms of general peritonitis had made their appearance, would be almost invariably fatal. You hardly ever have such positive assurance of the occurrence of the accident, as to justify such extreme measures. I am one of those who strongly advocate the opening of the abdomen in cases of intestinal obstruction. I think that we are not justified in allow-

ing any human being to die where we can diagnose intestinal obstruction, even although we cannot absolutely localize its seat without giving him the benefit of this operation. Just in proportion as the symptoms are dependent on mechanical obstruction, and not on inflammatory disturbance, are we called on to operate. Just in proportion as the symptoms are indicative of diffuse inflammation and not of local obstruction, do the chances of a successful result from the operation diminish. In the cases to which I refer, the argument against the operations reaches its maximum force. There is perhaps no condition in which abdominal sections holds out so little promise, as in this affection of the vermiform appendix. You will, I have no doubt, agree with me that this is one of the most startling, one of the most insidious, and one of the most invariably fatal accidents that can befall any one.

It might be expected that this accident would occur more frequently than it does. It is probable that foreign bodies are going in and out of the appendix at all times, but its mucous membrane is lubricated with a smooth, viscid mucus, which prevents their lodgment. So long as the lining of the appendix remains healthy, it is difficult for lodgment to take place. It appears to me that some local disease is needed, and that this is especially induced by improper habits in eating. If the cæcum contains a mass of coarse, hard, imperfectly masticated food, a local catarrh is finally established, which also involves the appendix. There is thickening of its coats, enlargement of its calibre, and some alteration in the character of its contents. These concretions may have their origin in the appendix as the result of the disease of the mucous membrane, beginning around a small nucleus, layer after layer is deposited, until the concretion assumes the proportion of a large calculus. I believe that local disease is necessary to enable these concretions to form or be lodged in the appendix. Of course, where a foreign body, as a seed of some kind, is demonstrated in the appendix, we must admit that it has entered and set up irritation.

One of the lessons to be learned from this case is, that food is to be eaten at regular intervals, and above all things should be thoroughly masticated. The more you study this matter the more you will find that not only this, but many other diseases are developed from a neglect of these rules.

ANAL FISSURE.

By JOHN THOMPSON, M.D., Albany, N. Y.

From the *Medical Annals*, September, 1884:—Fissure of the anus consists of a narrow crack, or a solution of continuity, of the mucous membrane of the anus, extending upward into the rectum, where it may communicate with an ulcer, which is likely to be located between the external and internal sphincters. The fissure usually terminates externally in a small cutaneous projection that many times is taken for the source of the great annoyance and discomfort experienced. The disease will generally be found among nervous, hysterical, sedentary females, who are weak and irritable, with a constant tendency to constipation. Men are often sufferers from fissure who are enfeebled from scrofula or tuberculosis, and many who have been the subjects of syphilis will have a warty excrescence of the anus, complicated with internal piles, ulcer or fissure.

In fissure of the anus there is intense pain and spasmodic contraction of the lower sphincter muscle of the rectum, with general irritation of the surrounding parts. The pain is almost intolerable, at times of a burning and boring character, lasting from one to four hours after a movement of the bowels.

Treatment.—Different plans of treatment recommended are, stretching of the sphincter muscle by the thumbs or fingers in the rectum; cutting through, or partially through, to the base of the ulcer; cauterizing the fissure with a solid stick of nitrate of silver or using the silver in solution; entire division of the sphincter ani muscle, a procedure recommended by the French. Most American surgeons are in favor of stretching the sphincter, thus paralyzing the muscle, and, by the absolute rest thus secured, giving relief from pain and allowing the ulcer to heal.

In the acute case reported, a suppository was ordered, as follows: R. Morphine sulph., gr. ss.; ext. belladonnæ, gr. j.; ol. theobrom. q. s. M. et ft. unum suppositorium. One or two of such, as required, were used each day for seven weeks. The patient was made comfortable, declined other treatment, and perfectly recovered.

In the second case, after using the suppositories for a few days, divulsion was performed, and rapid recovery followed.

Dr. A. Van Derveer said: The pain in these cases oftentimes is allowed to interfere with a thorough examination. This should not be; a careful examination is necessary; the feel of the anus is disagnostic. Cosmoline or cocoa-butter is better than oil, for by its use the pain is less. The introduction of the finger into the anus is attended with some difficulty, as the ring contracts firmly. The finger alone in diagnosis is not always reliable, while the use of the glass speculum with the fenestra is barbarous. The bivalve speculum is good; so is the four-ring Shiland speculum. In the treatment of these cases it is important to know how far up the fissure extends. His experience was that Van Buren's method with the thumbs, or any other method, unless followed by the rectal plug, is attended with very little success. The best shape for the plug he believed to be ovoid, and it should have a piece across to prevent its entering too far and also to assist in fastening it. Scraping with a curette and inserting a plug, to be worn for an hour morning and night, produces a broad cicatrix, and is generally followed by good results.

Dr. R. H. Sabin, of West Troy, spoke of the immediate relief from pain sometimes produced by the operation of rapid divulsion.

Dr. P. J. Keegan said: Having located the fissure, stretch it and cauterize it with carbolic acid; this plan he considered better than cutting or scraping.

Dr. F. Townsend, Jr., thought the plug unnecessary, and objectionable. If the incision is deep enough to sever either pudic or sacral nerve, physiological rest is produced, and this is enough. To obtain good results it is essential that the incision pass at right angles through the fibres. Allingham cites cases which would not get well under any form of treatment. In such cases suppositories are of value.

HÆMORRHOIDS.

By A. LAPHORN SMITH, M.D., M.R.C.S. Eng., Professor of Botany, Bishop's College, Medical Faculty.

From the *Canada Med. Record*.—Never undertake the treatment of a case about the anus or rectum until you have made a thorough examination and certain diagnosis.

Piles are essentially enlarged hæmorrhoidal veins, surrounded by infiltrated cellular tissue. They are either situated outside the anus and are covered with skin and called external, or they are situated inside the sphincter, covered with mucous membrane, and are called internal.

Bleeding is much more frequent from the internal variety than from the external, because the veins are much better supported and covered by the skin in the latter.

As piles are nothing more nor less than varicose veins of the rectum, they are produced by the same causes as produce varicose veins of the legs. Thus they are both frequent in pregnant women, because the enlarge uterus compresses the internal or common iliac veins; they are also rarely absent from heavy drinkers, both because alcohol changes the normal condition of the liver and because, moreover, the walls of the veins and the heart are relaxed and weak.

Treatment.—This may be either medical or surgical, or both. The medical treatment consists in regulating the bowels, diminishing the engorgement of the liver, and in remedying as far as possible the defects in the general circulation. In overcoming constipation, carefully avoid anything approaching a purgative, which in the atonic or relaxed condition of the intestine would cause prolapsus and with intense pain. More especially avoid aloes which acts on the lower part of the bowels and causes congestion of the

pelvic organs. Castor oil and sulphate of magnesia should not be given as they irritate the rectum.

My favorite in these cases is the confection of Black Pepper, which gives almost immediate relief when taken in a dose of 1 or 2 teaspoonfuls every night. Another very mild laxative is a mixture of equal parts of cream of tartar and sulphur, rubbed into a paste with syrup and taken in the same quantity. The compound liquorice powder of the German Pharmacopœia consisting of powdered senna and powdered liquorice of each 2 parts; powdered fennel and sulphur, of each 1 part and white sugar 6 parts. Where there is congestion of the liver podophyllin in the dose of $\frac{1}{4}$ to $\frac{1}{2}$ a grain in pill form every night, is a mild and safe remedy. Much also can be done for this class of patients by recommending a suitable diet, in which fruit and vegetables should enter largely; they are nature's laxatives.

The surgical treatment may be either palliative or curative. The former consists in the local application of anodyne and astringent ointments and injections. The best of these and the one I invariably use is the unguentum gallæ cum opio. It is always soothing, and when employed in conjunction with remedies which keep the contents of the bowels semi-liquid, it will almost seem at times to be curative.

When there is much bleeding a lump of alum cut into the shape of a suppository may be inserted, or an enema of a 20 grains to the ounce solution of persulphate of iron will generally control the hemorrhage.

Among the curative surgical measures one of the best, least painful and safest is the injection of carbolized oil, equal parts of each with a hypodermic syringe into the distended vein which forms the pile.

When piles are internal and not readily brought down, a speculum is employed to uncover them. The operator generally takes only one pile at a time, always selecting the uppermost one first, and injects into its interior from one to four drops. The injection turns the pile white, probably coagulates the blood in its vessels, and results in its shrinking away, without the inflammation being at any one time severe enough as a general thing to prevent the patient from attending to his business. The well known power of carbolic acid to act as a local anæsthetic antiphlogistic and antisympathetic favors the progress. When the irritation of the first injection has measurably subsided, another pile is attacked in the same way.

Of the two remaining methods, the ligature and actual cautery, the latter is most generally employed. If you have a Paquelin thermo-cautery, employ the sharp-pointed platinum tip at a little below white heat. By gently pulling the swollen mass down and pushing this into it at one or several points according to its size, the circulation in it is stopped and in a few days it shrivels up.

When there are loose flaps of skin hanging around snip them off with a pair of scissors, hemorrhage if any being controlled by the ligature or pressure.

URINARY AND GENERATIVE ORGANS.

IRRITATION OF THE PROSTATE.

By R. HARVEY REED, M.D., Mansfield, O.

From the *Detroit Lancet*, September, 1884:—*Irritation of the prostate* may consist of a true or sympathetic congestion of all or a part of the prostate gland, or a catarrhal condition of all or a part of follicles and ducts of the racemose glands, or even involved the ejaculatory ducts; or it may consist of a hyperæsthesia of the nerve filaments supplying the gland, any one, or all of which will keep up an irritated condition of the gland unattended with a chill, or acute inflammation, and the graver symptoms of the more serious and destructive diseases of the gland.

Dr. Reed gives the following points in differential diagnosis of cystitis, and imitation of the prostate:

CYSTITIS.	IRRITATION OF THE PROSTATE.
A constant desire to void the urine.	Micturition more frequent, but not a constant desire, which is increased toward the afternoon and evening.
Great straining and tenesmus during micturition.	Weight and bearing down in the perineum. A slight smarting or tingling as the urine passes the prostate, accompanied with a prickling or burning sensation in the glans penis.
Urine ammoniacal, high colored and often loaded with mucus and pus.	Urine not much changed, excepting it is abnormally acid, and more highly colored.
Little or no tenderness of the prostate.	Marked tenderness over the prostate.
Pain and uneasiness over the pubes.	Pain and uneasiness in the perineum.
Epithelial casts of the bladder.	No epithelial casts of the bladder.
No casts of the prostatic ducts.	Casts of the prostatic ducts in the catarrhal form of irritation.
No pain in passing the catheter, except after reaching the bladder.	Pain in passing the catheter, marked along the prostatic urethra.
Desire for copulation not increased, but usually diminished.	Desire for copulation increased rather than diminished.
Generally marked constitutional disturbances.	Seldom any marked constitutional disturbances.

Treatment.—The first thing to do in the treatment of this disease is to gain the entire confidence of the patient, and then to ascertain the cause or causes producing the irritation.

If it is the result of masturbation, the remedies which have served me best have been bromides combined with extract of *viburnum pruni-folium*, or extract of *viburnum opulus*, tinct. *belladonna*, *ergot*, or *camphor*, to soothe the sexual excitement.

Generally such tonics as *strychnia*, *iron*, *quinine*, *arsenic*, or the *hypophosphites* of sodium or calcium, are indicated, and prove highly beneficial.

Whilst locally if I cannot quiet the irritation by the use of injections of tepid water into the bowel just before or immediately after retiring, to which may be added hydrate of chloral, I give a suppository of *hyoscyamus* combined with *iodoform* and *camphor*.

In the inflammatory or congestive form, I have found the following to be very beneficial, especially where it is associated with scanty or high-colored urine: *R.* Pot. brom., 3 ii; aqua. dist., fl. ℥ i; fl. ext. *ergotæ*, fl. ℥ i; fl. ext. *digitalis*, fl. 3 i; fl. ext. *gelsemium*, fl. 3 i; elix. *glycyrrhiza*, q. s. ad fl. ℥ iv.

M. S.—Teaspoonful between meals and before retiring.

The catarrhal form is more difficult to control than the congestive, owing to involvement of the ducts and follicles, which are exceedingly difficult to reach with remedies, and the danger of calcareous degeneration of their secretions.

In addition to the general tonic treatment I have suggested, we will find in this form beneficial results from the use of iodide of potassium internally, combined with the external use of Tr. of iodine along the perineum.

Secure as nearly as possible the discharge of all the semi-solid secretions which block up the ducts and thus interrupt the 'healthy action of their follicles, and at the same time stimulate them to healthy action.

This can be done very much by the use of a solution of bichloride of soda, used with a prostatic syringe, which aids in dissolving the thickened mucoid discharge, and thus facilitate its more rapid escape. Finely powdered borax, or the impalpable powder of boracic acid, applied along the prostatic urethra, will not only favor the discharge of this thick secretion, but act as a gentle stimulant to the diseased ducts and their follicles.

Occasional kneading of the gland through the rectum will not only aid in emptying the engorged ducts, but act as a gentle stimulant to the gland itself.

Where there is hyperæsthesia of the nerves supplying the gland, and thus keeping up through sympathetic irritation a constant desire to copulate, or inducing frequent nocturnal emissions, I have never found anything which gave me such prompt relief as the use of carbolic acid applied with the porte caustique along the prostatic urethra.

Sometimes a single application combined with tonics, sedatives, or alteratives, as the case may demand, will be sufficient, but if not a few at the most will serve to control the difficulty.

A PECULIAR RINGED AFFECTION OF THE GLANS AND PREPUCE.

By ROBERT W. TAYLOR, M.D., Visiting Surg. to Charity Hosp. N. Y.

At the annual meeting of the *Amer. Dermatological Ass'n.*, August, 1884, Dr. Taylor described three cases of the affection. The patients were all from forty to fifty years of age, and all free from syphilis. Marked neurotic disturbances preceded and attended the outbreak in all the cases, in one an attack of cœti-epididymitis and recurring attacks of balanoposthitis, and in another a chancroid had been severely cauterized on the glans, which led to long-continued swelling and other inflammatory disturbances. In all the cases the disease appeared in the form of a few rings covered with thin, firmly adherent, glistening scales, seated upon a normal mucous membrane with hyperæmic halo. The lesions always began as a ring, and not as a papule spreading peripherally. After the lesions had appeared they remained stationary, showing no tendency to extend, and no new ones coming out. The affection was confined to the mucous membrane, the adjacent skin not being involved in any of the cases. Disagreeable sensations in the affected and adjacent parts were present in all of them.

The affection resisted obstinately all local treatment, and would grow better and worse in a very capricious manner. The cases all finally recovered under the long-continued use of large doses of arsenic. He was loath to regard the disease as one *sui generis*, but in studying the cases he had carefully eliminated syphilis, tinea circinata, and psoriasis from the diagnosis.

Dr. L. A. Duhring, Philadelphia, had seen three cases and was very much puzzled when he first saw them, but had finally concluded to call them lupus erythematosus. These cases were free from neurotic manifestations, and all proved very obstinate. A cure was finally accomplished in two of them by destroying the lesions with caustic potash.

Dr. J. C. White, Boston, had had one case under observation for some months, but had made no positive diagnosis, although he thought that it might have been lupus erythematosus.

Dr. W. A. Hardaway, St. Louis, described what he regarded as a similar case. The patient had been treated for psoriasis and recovered, although the course of the affection was entirely unlike that of psoriasis.

Dr. W. T. Alexander, of New York, suggested that perhaps the affection might partake of the nature of the disease known as leukoplakia buccalis.

Dr. E. Wigglesworth, of Boston, cited the case of a man whom he had successfully treated for leukoplakia buccalis, and who afterward returned with a kidney-shaped patch, clearing up in the centre, on the glans penis.

It was attended with disagreeable itching sensations. There were no evidences of syphilis in the case, and he had eliminated from the diagnosis everything but lupus erythematosus, an instance of which affection he finally pronounced it. It finally disappeared under the use of pure carbolic acid.

Dr. Taylor, was confident the cases were not instances of lupus erythematosus.

AN IMPROVED METHOD OF AMPUTATING THE PENIS.

Surgeon-Major T. J. MCGANN gives the outlines of four cases of amputation of the penis by the following method: The patient is placed on the table in the lithotomy position, and chloroform having been given, an assistant, holding the scrotum in both hands, draws it forward, keeping the raphe of the scrotum and perineum in the same line. An incision of two and a half or three in length is made by the scrotum in the median line, with its centre over the bulb; the corpus spongiosum having been completely exposed, and a little fine dissection made so as to separate it laterally from the corpus cavernosum, the scrotum is allowed to drop and is drawn slightly backward, and the penis having been seized, is pulled forward and removed by a single sweep of the knife close under the pubis. The few bleeding vessels having been twisted or tied, the scrotum is again drawn forward as before, when the cut surface of the corpus spongiosum presents itself through the posterior incision, and this being separated from the corpus cavernosum, is turned down into the perineum, and left hanging out there half an inch beyond the level of the skin. The front and back incisions are then united by a few points of suture, and the protruding spongy body slit on the lower or posterior aspect, and the edges united to the perineal skin on either side by two points of suture. The operation is completed. On the completion of the operation there is but a small wound visible in front, and the scrotum, which is practically intact, has to be raised to render the posterior incision visible.—*Indian Med. Gazette.*—*Nashville Jour. of Med. and Surg.*, Oct., 1884.

ORGANIC STRICTURES OF THE URETHRA.

Dr. JOHN S. COLEMAN, of Augusta, Georgia, gives the following conclusions: (1) That in the treatment of organic strictures of the urethra, urethrotomy, whether internal or external, and also the method by division, are attended with serious risk by the patient, on account of hemorrhage, pyæmia and uræmia. (2) That strictures treated by these methods are no less liable to recurrence than those treated by gradual dilatation. Indeed, unless followed by persistent dilatation, they are subject to early relapse. (3) That gradual dilatation of urethral strictures, though of slower progress in the beginning, is almost entirely free from danger, more permanent in its results, and, upon the whole, the shortest and most perfect method of cure. (4) That in the treatment of tight urethral strictures, the multiple wedge principle devised by the writer, viz: that of introducing, side by side, and one at a time successively, a number of filiform bougies, whether applied to the interrupted or the continuous method, offers to the surgeon the easiest, safest and best method for effecting the solution or absorption of the inodular tissue, and for removing the obstruction.—*Jour. Amer. Med. Ass'n.*

GONORRHEA.

Dr. J. W. LILLY, of Pomeroy, O., in the *Cincinnati Lancet and Clinic*, Oct. 18, 1884, recommends the following as having given entire satisfaction if used as directed: R. Hydrastin, gr. ss; boracic acid, gr. jss; morphi. acetate, gr. $\frac{1}{4}$; chlor. sodium, gr. j. Pure cocoa butter, q.s. to make bougie 3 inches long.

His method of using it is, first have the patient urinate, then cleanse the urethra with starch water, after which introduce the bougie. Continue this morning and evening until the discharge ceases (which it does in from two to five days), and then one each evening for five evenings more.

TREATMENT OF BUBOES BY ASPIRATION.

Mr. WESTON, in the *Indian Medical Gazette*, refers to two cases of bubo successfully treated by Surgeon-Major Hogg by means of the pneumatic aspirator. "The men," he says, "went out of the hospital much sooner than they would have done had the buboes been laid open." In one case the operation had to be repeated once. A pad and bandage were used after the pus had been drawn off. In our military hospitals, where the ordinary plan of laying open the bubo is practiced, one often sees the resulting sore take on an unhealthy action, and, as a consequence, the men are kept in hospital for several months."—*Chicago Med. News*, Oct., 1884.

LITHOLAPAXY.

From an Editorial in the *Medical News*, Sept. 20, 1884.—Sir HENRY THOMPSON, (*British Med. Jour.*, July 12 and 19, 1884), has had 782 cases of operation for stone in adult males. Among his first 200 cases, 48, or one in nearly every four, were subjected to lithotomy. In his next 371 cases, 19, or 1 in every 19½, were cut; while in his last 211 operations, 15, or 1 in every 14, were lithotomies. Von Dittel, as reported in the *Wiener Med. Wochenschrift*, Nos. 8 to 11, 1884, lithotomized 46 of his first 100 patients, 32 of his second 100, and only 13 of his third 108, the ratio of those cut having been reduced from 1 in 2.17 to 1 in 7.69. In the crushing operations litholapaxy rapidly displaced ordinary lithotritry, and lithotomy was reserved, as a rule, for encysted calculi and stones of unusually large size.

That Bigelow's operation is safer than other operations for urinary calculi in adult males is proved by some other facts set forth in the lectures of Sir Henry Thompson. Thus, of 110 lithotomies, 39 were fatal, the mortality being 35.5 per cent., which is simply enormous. Of 478 ordinary lithotrities, 88 died, the mortality being 6.9 per cent.; while of 194 litholapaxies, 10, or 5.15 per cent., were fatal. These results clearly show that litholapaxy must supersede not only the old operation of crushing, but also cutting operations except in cases in which the stone is of exceptional size or hardness.

The results of rapid lithotritry, as performed by different operators, indicate a mortality of about 5.4 per cent. This death-rate does not appear to have been materially lessened by the experience of those who have had the most frequent opportunities to do the operation. Thus, Freyer's 76 cases show 8 deaths, or a mortality of 4 per cent. Von Dittel's 80 cases afford 5 deaths, or a mortality of 6.25 per cent., and Sir Henry Thompson's 194 operations have yielded 10 deaths, or a mortality of 5.15 per cent. The entire number, or 350 cases, show 18 deaths, or a mortality of 5.1 per cent., a result which may be improved upon, but with which we should have every reason to be satisfied.

HÆMATURIA CAUSED BY RETENTION OF URINE.

GUYON, in the *Jour. de Med. et de Chir. Prac.*, states that long-continued retention of urine is always accompanied by a considerable venous congestion of the bladder, prostate, kidneys, and tissues around the bladder. When the bladder is emptied rapidly and completely with a large catheter, the sudden diminution of pressure may cause ecchymoses in the mucous membrane, and sometimes abundant hæmorrhage, syncope and death. In these cases, one-half only of the urine should be drawn off very slowly. It is a good plan also to inject into the bladder 150 grammes ($\frac{3}{4}$ v.) of a 4 per cent. solution of boracic acid, so as to prevent decomposition.—*Med. and Surg. Rep.*

CATHETERIZATION.

Dr. ANDREW H. SMITH, of New York, in the *Medical Record*, suggests: "In the absence of actual stricture an undue sensitiveness of the membranous portion of the urethra often causes pain and spasm the moment the catheter

ter reaches that portion of the canal. As the operation is usually performed, the difficulty is increased by the fact that the back of the instrument reaches the sensitive portion of the canal in a dry condition, that is to say, the oil or other lubricating substance with which it is smeared, has been wiped off by contact with the walls of the urethra before the point is reached at which a lubricant is most needed. This difficulty can easily be overcome in the following manner: Immerse the catheter in oil, in such a way that the oil will fill the lower third of the instrument. Then close the upper end with the finger, and keep it closed until the back of the catheter reaches the sensitive spot. Then remove the finger and allow the oil to flow out of the eye of the instrument and bathe the surface of the membrane. If, at the same moment the catheter is carried gently onward, it will often enter the bladder as easily as it has passed the wider portion of the urethra."

SYPHILITIC AFFECTIONS.

SYPHILIS OF THE SKIN.

By LOUIS A. DUNNING, M.D., Prof. of Dermatology in the Univ. of Penn.

From the *Medical News*, Sept. 20, 1884:—General symptoms are, as a rule, absent, though slight fever, malaise and languor are sometimes met with. Other symptoms usually concomitant, are enlargement of the lymphatic glands, angina, alopecia and the occurrence of mucous patches. Syphilis attacks no particular region, although the different forms of eruption show preference for certain localities. Symmetry is a characteristic of the earlier eruptions; irregularity in distribution of the later forms.

The lesions of cutaneous syphilis are noted for their multiformity, almost all of the forms common to other cutaneous diseases being liable to appear, the papule and pustule, however, being the most frequent. Polymorphism is commoner in the earlier than in the later eruptions. The configuration is also peculiar, the earlier lesions being rounded, while the later assumes an annular, crescentic or serpiginous form. The color varies with the age, complexion, and stage of the disease. Early lesions are first of a pinkish or dull-reddish hue, usually passing through varied tints to a violaceous, coppery or brownish-red color. Older lesions, especially papules and tubercles, often have a deep-red, cold, non-inflammatory look.

The course of the disease is usually slow; especially is this the case with the later forms. Relapses are common. Subjective symptoms are, as a rule, absent; pain is, however, sometimes present with ulcerative lesions. Itching occasionally accompanies the small papular and pustular syphilodermata.

Regarding treatment, mercury and iodide of potassium are our most valuable remedies; and with them mainly the disease must be combated. They are administered in varying doses and in various combinations. When used together they constitute what is known as the "mixed treatment." Mercury, when used alone, may be administered by the mouth, by hypodermatic injection, or by inunction; *in all cases salivation is to be avoided.* The objections to the hypodermatic method, as introduced by Lewin, of Berlin, is that it is painful, and that patients generally object to its employment. Subcutaneous abscesses also often follow, and the procedure consumes too much time for the patient. The administration by the mouth is preferable to that by inunction, in that it avoids the staining of linen, takes up much less time, and, above all, in that the dose can be more accurately given. In the mixed treatment, the formula generally used is as follows: R. Hydragryi biniodidi, gr. iss; potassii iodidi, 3 iij; syr. sars. co., f ʒiv. M. Sig.—One teaspoonful, with water, thrice daily.

Local treatment of ulcerations may consist in the use of ointments of ammoniated mercury, one-half to one drachm to the ounce of lard; or ointment of the nitrate of mercury, one to two or four drachms to the ounce; or the

oleate of mercury ointment, five to twenty per cent. strength. A mercurial ointment is also valuable, and is almost exclusively used in the hospitals of Vienna.

ON THE TREATMENT OF PRIMARY SYPHILIS.

By J. L. TRED. M.D. Kansas City, Mo.

From the *Kansas City Med. Record*, Oct., 1884:—The plan I propose is as follows: Make a saturated solution of iodide of potassium in a small vial, where each minim of the solution will equal one grain of the salt; to this add rather more free re-sublimed iodine than the solution will dissolve. You thus have a saturated solution of iodine in a saturated solution of iodide of potassium.

Dry the surface of the primary sore with absorbent cotton thoroughly, and place some lint around the sore to protect the adjacent surface. With the *very finest* camel's-hair pencil paint the sore with the solution, and allow the thin layer of fluid to soak well in. Keep painting until the iodine has penetrated deeply, beyond the indurated layer at the base if possible, and apply some absorbent cotton. The next day repeat the application, wiping the surface dry, but not applying any water. Repeat this three or four days or more if it seems necessary. The surface of the sore will present the appearance of a simple ulcer with no granulations, and will be *extremely sensitive* to the iodine as the neoplasm of the induration becomes melted away.

Very frequently the case is not seen until the lymphatics have become involved, and therefore it is best to put the patient upon three grains of hydrargyrum cum creta three times a day. This may be kept up for a month or six weeks; but if the glands in the groin should begin to swell and become sore, it must be continued longer, and the oleate of mercury and morphia be applied to them locally in addition.

After leaving off the application of iodine, which had better be continued a little too long than omitted too soon, the sore may be dressed with dry calomel or with iodoform. I prefer the former.

The sore should be examined frequently, and after it has healed its site should be examined for some time. The whole of the neoplasm may not have been removed by the iodine, and then after the sore has healed, a small ridge will make its appearance close to the original site. This ridge is derived from the original neoplasm of the induration, and, if allowed to remain, will itself go on to produce constitutional infection and secondary symptoms. In case such ridge should make its appearance, treat it with the iodine solution, just as the primary sore was treated, until it is all removed. If the case is of some continuance when first seen, such an outgrowth may make its appearance three or four times, when each time it will require a similar course of treatment.

After the inguinal glands have become infected there is no positive assurance against secondary symptoms, although such an event may be often prevented by vigorous measures.

In soft chancre the application of this solution of iodine is the best preventive against phagedena, for it converts a sore of a specific character into a simple non-specific sore.

Of course in a mixed chancre it is equally valuable as in a hard chancre. I have never found any ill results from this application. The surface should be dried before its application, the surrounding parts protected, and the solution be applied slowly but thoroughly.

THE ABORTIVE TREATMENT OF SOFT CHANCRE.

HANS VON HEBRA reports ten cases of non-infecting chancre successfully treated by local applications of salicylic acid; though, so far as they go, the results are excellent, the number of cases is far too small to warrant general conclusions. The method consisted in applying pure salicylic acid directly to the ulcer, care being taken not to allow it touch sound parts, after carefully washing the affected member with warm water. The acid is covered

over with a piece of lint and a strip of adhesive plaster is placed over all. If the ulcer is of a mild type, the dressing need be renewed but once in twenty-four hours; but, if there is a good deal of secretion, it should be changed twice a day. During the first day the ulcer covers itself with a white scab, while the surrounding parts become red. After the third day, by which time the scab attains a considerable size, the use of the acid must be stopped. The subsequent treatment consisted in the use of some emollient ointment, under which the scab became detached in half a day, leaving a healthy raw surface, which healed in two to three days. The treatment is said to be almost painless, and is also very cleanly. In none of his ten cases were there any buboes. [It may be mentioned that this same method of treatment was in use in this city five or six years ago.]—*N. Y. Med. Jour.*

CORROSIVE SUBLIMATE IN VENEREAL WARTS.

A correspondent writes us that having been advised to apply a solution of one grain to the ounce of corrosive sublimate, to a case of venereal warts which came under his care, he found after the application that through a mistake a solution of ten grains to the ounce was applied. The result was so satisfactory that he determined to still further increase the strength, and on his next case he made the solution of the strength of twenty grains to the ounce, with excellent results. He now applies this solution to chancres and chancroids, and also to indolent ulcers of the uterus, and is highly satisfied with the results. He has never witnessed the slightest symptoms of mercurial poisoning from this treatment, and does not believe that the application of corrosive sublimate in this strength is liable to be followed by absorption.—*Medical Age, Oct. 10, 1884:—*

ACUTE PHAGEDENIC PUSTULAR SYPHILIDE.

Dr. JOHN A. WYETH presented to the *N. Y. Path. Soc.*, Sept. 24, 1884, a patient who was admitted to Mt. Sinai Hospital, July 11, 1884. On admission, there was found a large non-suppurating bubo in the right groin, and a sore with indurated edges at the base of the penis on the right side. The sore was triangular in shape with the apex extending up the penis, one angle at the base running into the scrotum, and the other into the groin. The sore measured about one inch on each side, and was deeply excavated, measuring more than an inch in depth, and it had a sloughy base.

A papular and pustular eruption was scattered thickly over the face, trunk, and extremities. The inguinal, epitrochlear, and cervical glands were enlarged. There had been a small ulceration upon the dorsum of the tongue, which lasted about two days.

The patient's general condition was good; his bowels were regular; there was no urinary trouble; his tongue was coated; his mouth dark red; and his temperature 102.2° F.

Dr. Wyeth remarked that the case had shown phagedena to a degree he had not seen before with an acute sypylide. There was no evidence of tertiary lesion. He regarded the case as one of acute phagedenic pustular sypylide, and maintained that it illustrated the statement of Bumstead and Taylor that a pustular sypylitic eruption is apt to follow a phagedenic sypylitic ulcer on the penis, and the violence is frequently proportionate to the violence of the initial lesion.

A point of interest in the treatment was the fact that very large doses of protoiodide of mercury were given daily for three or four weeks before the sores began to heal, and no unpleasant constitutional effects belonging to the drug were produced.

SYPHILITIC REINFECTION.

In the *Weekly Med. Review* appears a synopsis of an article written on this subject by J. E. Güntz in Schmidt's *Jahrbücher*, in which he reports a case of unmistakable reinfection within nine years. * *

Ricord, v. Sigmund, Bærensprung and Fournier, never saw a case. * * Neumann is of the opinion that a second infection may take place. * * Diday, Zeissel, Kœbner, Hutchinson, Bergh, Bæumler, and others assure this as a fact. * * But the true reinfection; i.e., a true sclerosis with consecutive, general leutic affection, is of exceeding infrequent occurrence.

AFFECTIONS OF THE EYE.

PREVENTABLE BLINDNESS.

By SAMUEL THEOBALD, M.D., Prof. of Diseases of the Eye and Ear in the Baltimore Polyclinic and Post-Graduate Med. School.

From *Trans. of the Med. and Chirurg. Faculty of Maryland*, 1884:—Of all the diseases of the eye, the *purulent conjunctivitis of infants*, the *ophthalmia neonatorum*, is probably the one which causes the greatest amount of blindness; and yet if judiciously treated from the beginning this affection can almost invariably be brought to a favorable termination.

When the opportunity offers to treat this affection in its incipency, the application to the eyes three or four times a day of a solution of boracic acid (gr. v—x to aq. distill. $\frac{3}{4}$ i) will usually bring about a rapid subsidence of the inflammation. In the severer cases a saturated solution (gr. xviii to $\frac{3}{4}$ i) may be similarly employed, or nitrate of silver may be added to the ten-grain solution of boracic acid, in the proportion of gr. j—iij to $\frac{3}{4}$ j. Occasionally sulphate of zinc (gr. j to $\frac{3}{4}$ i) or alum (gr. ij—iij to $\frac{3}{4}$ i) may be substituted for the nitrate of silver with advantage. A daily application of a drop of solution of atropia (gr. ij—v to $\frac{3}{4}$ j) should also be made under such circumstances, as it lessens the danger of corneal implication, and is of the greatest value if this has already occurred.

Scrofulous Ophthalmia, which is so prevalent in this country, especially among the children of the poor, is another fruitful source of blindness; yet it is scarcely putting it too strongly to say, that loss of sight ought never to result from this disease. Build up the system with iron and bark; use two or three times a day a collyrium of sulphate of atropia (gr. j—iv to $\frac{3}{4}$ j, according to the severity of the symptoms), and apply to the eyes once a day a bit of yellow oxide of mercury ointment (gr. j to vaseline $\frac{3}{4}$ j), and there is scarcely a malady that we have to deal with that will respond more promptly to our remedial efforts, or will terminate more satisfactorily.

Another very common cause of blindness is *iritis*; and yet of this affection, too, it may be said that, except in consequence of maltreatment or neglect, it ought never, or almost never, to eventuate in loss of sight. The liberal use of a strong solution of atropia (gr. iv—viiij to $\frac{3}{4}$ j), to bring about as quickly as possible thorough dilatation of the pupil, is, of course, the most important indication in the treatment of iritis. The local abstraction of blood is also frequently demanded, and constitutional treatment almost always, as there is usually either a history of *syphilis*, inherited or acquired, or of *rheumatism*.

Granular Ophthalmia is another disease which destroys ten times as many eyes as it should, because those who might, by proper hygienic measures, circumscribe its ravages, do not seem to realize that they have any duty to perform in this direction. Could they be made to appreciate the extent of the wretchedness which their neglect to enforce the requisite sanitary precautions against the spread of this loathsome disease entails, the needed reforms would doubtless be introduced without delay. It is a malady which, in this country at least, seems to be kept alive in institutions in which the young are crowded together.

Sympathetic Ophthalmia, which annually adds a large contingent to the blind population of every civilized community, would not number a twentieth part of the victims it does but for the almost universal willingness of

persons who have been so unfortunate as to lose the sight of one eye from accident or disease, to risk the loss of the other rather than submit to the removal of the sightless organ. Whenever an eye, destroyed by either idiopathic or traumatic inflammation, continues irritable, sensitive to the touch, and subject to recurrent attacks of inflammation, it should be removed without delay.

Glaucoma causes many more cases of blindness than it should, because its true character is so often overlooked. The general practitioner, into whose hands cases of this disease usually fall in their incipency, cannot be reminded too often of the importance of diagnosing them at the earliest possible moment; for in the more acute varieties the delay of a few days in the performance of an iridectomy may make the difference between total blindness and complete restoration of vision. It is a good rule always to examine the tension of every inflamed and painful eye, especially if there is besides impairment of vision. Acute glaucoma is most apt to be mistaken for neuralgia of the fifth nerve, to which, after all, it is, perhaps, more nearly related than some of our modern lymph-space doctrinaires would have us believe. Chronic, non-inflammatory glaucoma is not infrequently confounded with simple cataract, because of the marked vitreous reflex, which gives to the pupil an opaque appearance. Against these mistakes, therefore, it is well to be especially on guard.

Many eyes are lost annually (by those, too, who can least afford to lose them) because so few of the many thousands of our population engaged in work which especially endangers the integrity of the eyes, are willing to take the simplest precautions in order to insure themselves against the risk to which they are constantly exposed. It is not an uncommon thing to find the cornæ of men engaged in stone-cutting, in turning or grinding steel, or in making millstones, dotted all over with minute opacities, each one of which represents a previously received sharp blow from a minute foreign body; and yet, ninety-nine in a hundred of them will take the risk of the next particle of steel or stone which flies in the same direction, having sufficient momentum to penetrate the eyeball, and probably destroy the sight (as too frequently happens), rather than purchase immunity from this ever-present danger by subjecting themselves to the slight inconvenience of wearing protection spectacles, with large plain glasses, such as are made for this especial purpose.

These are the most fruitful sources of preventable blindness.

PREVENTION OF OPHTHALMIA NEONATORUM.

By HENRY J. GARREIGUES, M.D., Obstetric Surgeon to the N. Y. Maternity Hospital.

One of the greatest blessings which medical art of late has conferred on mankind is the preventive treatment of the blennorrhœa of the eyes of newborn children.

The cure being so troublesome and uncertain, various ways have been tried to prevent the disease; but all other results have been left far behind by those of Credé, who in the year 1880 introduced his treatment, which consists in *washing the outer surface of the eyelids with plain water, separating them slightly and letting a single drop of a two per cent. solution of nitrate of silver fall from a glass-rod on the cornea.* No after-treatment is used. Since Credé introduced this method in his clinic in 1880 until the end of March, 1883, he treated 1160 children in this way, and only 4, *i. e.*, little more than one-third per cent., were affected, and of these two or perhaps even three must be eliminated on account of particular circumstances, so that in reality the percentage becomes almost none.

Since Credé made his first communication on this subject, his treatment has been adopted with almost similar results in many other German clinics.

I introduced this method on the 14th of October, 1882, in Maternity Hospital, and kept it up till I went off duty at the end of March. After that time it was discontinued, but during my next term, from the first of October, 1883, till the 31st of March, 1884, I followed the same plan. Thus I have

tried the treatment almost for twelve months, during which there were born 852 living children in the hospital. In one case which, during the absence of the house-surgeon, was delivered by an assistant, the application was neglected, and this child had a purulent conjunctivitis with opacity of the cornea. Although it was transferred to the eye ward in order to be under the treatment of specialists for diseases of the eye, the case ended in complete loss of sight in both eyes. As a counterpart to this, of the 851 children who were treated as prescribed not a single one was affected.

URÆMIC AMAUROSIS.

This formed the regular subject of discussion, and elicited a paper from Dr. Friedenwald, the conclusions of which were as follows:

1. When amaurosis suddenly overwhelms a patient in both eyes, with no ophthalmoscopic change, uræmia, should be suspected even in the absence of any other prominent uræmic symptoms.

2. Uræmic amaurosis will continue only as long as the uræmia exists, and will disappear when the function of the kidney is reëstablished. When permanent injury to sight is observed it may be due to pre-existing retinal changes, not at all uncommon in Bright's disease.

3. The chances for a full return of sight are somewhat impaired when the patient has been the subject of recurring attacks.

4. By exhibiting jaborandi and other means for inducing diaphoresis and by free purgation a catastrophe may be averted in the general forms of uræmia, but when it occurs in pregnancy premature labor is the only remedy which promises safety to the patient.—*Maryland Med. Jour.*, Oct. 4, 1884.

FRUEHJAHR-CATARRH.

By HOWARD F. HANSELL, M.D., Philadelphia.

In a paper read before the Philadelphia County Medical Society, September 17th, 1884, Dr. Hansell reports a case and gives the peculiarities of the disease as described by Arlt in his *Klinische Darstellung des Auges*, and by Saemisch in Graefe and Saemisch's *Handbuch der Augenheilkunde*, in almost the same words. There is an elevation of the edge of the cornea, caused by infiltration of a gray, yellow pulpy mass. On the limbus or margin are found small, gland-like, solid, light gray or yellow, somewhat transparent bodies, which appear on the nasal or temporal side, or both together, and slowly encroach on the bulbar conjunctiva. As they grow along the edge, they advance on the transparent part of the cornea, and are sharply lined from it, while they imperceptibly fade into the conjunctiva. They are tough, immovable deposits, and do not yield to the probe. The conjunctiva in pronounced cases has lost its transparency, and its enlarged vessels run into the elevations on the cornea. The color of the conjunctiva differs from that of inflammation, as well as from the normal; it is steamy, dull, pale red, wanting the freshness and liveliness of acute catarrh. This is due to the light serous infiltration of the part.

This condition of the conjunctiva is called by German authors "Frühjahr-Catarrh," and is without a name in English. The title is a bad one, because the affection is not a catarrh, neither does it exist only in the spring. It is a periodic or annual hypertrophy of the conjunctiva and the neighboring section of the cornea. An acute catarrh may be associated with it. The disease continues to appear regularly at the beginning of warm weather, reaches its maximum intensity in four weeks, disappears after the first snow, leaving no trace. This is repeated for a period usually of four years, although it may run on many years longer.

Treatment has little or no effect; the only references which I have been able to find are the two mentioned above, although I have searched the works of Stelwag, Carter, Schweigger, Jacobson and Soelberg Wells.

AFFECTIONS OF THE EAR.

MUMPS AS A CAUSE OF SUDDEN DEAFNESS.

By LEATUS CONNOR, M.D., Ophthalmic Surg. to Harper's Hosp, Detroit, Mich.

In a paper published in the *Amer. Jour. Med. Sciences*, Oct., 1884, Dr. Connor reaches the following conclusions:

(1.) Mumps do in some rare cases produce complete deafness. (2.) This deafness is usually attended with all the evidences of disease of the labyrinth. (3.) These show that it sometimes begins in the cochlea, but more frequently in the semi-circular canals. (4.) Owing to the lack of early observations and treatment it is impossible to say that it is not transmitted through the middle ear from the parotids to the labyrinth. (5.) The histories of some of the cases would seem to suggest that such an origin was possible. (6.) This possibility renders it very important that every case of deafness during an attack of mumps be at once carefully examined, so as to settle the question. (7.) This possibility offers the only hope for the successful treatment of these cases so as to prevent deafness. Thus, if there be a middle ear disease, we might hope that revulsive and counter-irritant treatment would arrest the disease and save the labyrinth. (8.) As to treatment of the labyrinthine disease nothing has thus far been devised that has produced any satisfactory result.

EARLY PARACENTESIS OF THE MEMBRANA TYMPANI IN THE TREATMENT OF ACUTE NON-SUPPURATIVE AND SUPPURATIVE CATARRH OF THE MIDDLE EAR.

By A. PAUDFOOT, M.D., Lect. on Dis. of the Eye, Ear and Throat, Bishop's Coll., Montreal, Can.

From the *Canada Med. Record*, September, 1884:—Notwithstanding that this operation was introduced by Sir Astley Cooper over eighty years ago, I find that there still exists a popular belief among the laity, and even among otherwise well-informed physicians, that perforation of the membrana tympani is necessarily followed by almost hopeless deafness.

The only rule which Sir A. Cooper laid down for the operation was closure of the Eustachian tubes, preventing the free passage of air into the tympanum: (1.) By a common cold producing congestion about the orifice of the tubes in the pharynx. (2.) Ulceration of the pharynx from,

(a.) Scarlet fever.

(b.) Syphilis. The resulting cicatrix causing closure of the tubes.

(3.) Extravasation of blood into the tympanum.

These observations of the great surgeon are wonderfully correct, when we consider that the Valsalva method was the only means then known of proving the permeability of the Eustachian tubes.

First let us consider those cases of acute non-suppurative inflammation of the middle ear with accumulation of mucus or serum within the tympanum.

Symptoms.—Ear-ache, fullness, throbbing sensation referred to the deep structure of the ear and tinnitus aurium. On inspection the membrana tympani will generally be found congested, vascular and somewhat bulged outward, and the hearing is more or less impaired. In most cases the throat is sore and the pharynx deeply congested. Usually in this disease pain is the first symptom complained of; but previous to its setting in the patient may have been aware of a certain fullness in the ears, with slight dullness of hearing, and perhaps a certain stiffness about the muscles of the throat. The pain may vary very much in different persons. Fever is a prominent symptom in this disease, and the temperature may rise above 100° F.

In the *treatment* of this severe form of inflammation we have first to relieve the pain, reduce fever, and, if possible, prevent the extension of the disease to that more severe type, acute suppuration of the middle ear, with spontaneous perforation of the membrana tympani.

For the relief of pain, especially in children, perhaps no remedy will give more relief than a continuous stream of (not warm water), but water just as hot as can be introduced into the meatus without scalding the patient.

Should the injection of hot water and the administration of a full dose of morphia prove insufficient to give relief we must then have recourse to the local abstraction of blood. This may be accomplished by leeches applied to the tragus, or by Hortloupe's artificial leech. But the treatment which, in my hands, has proved the most successful and satisfactory is paracentesis of the membrana tympani.

Therefore, in every case of acute inflammation of the middle ear, in which the pain does not immediately yield to hot water and a full dose of morphia, say $\frac{1}{4}$ to $\frac{1}{2}$ a gr., for an adult, and where the membrane is red, swollen and prominent, I consider it but loss of time to employ other means for the abstraction of blood—I at once puncture the membrane.

A case which will not yield to the above-named remedies, will, in all probability, cause spontaneous rupture of the membrane. Why not anticipate this by a neat puncture? It will at once relieve the tension of the parts, by the flow of blood from the membrane, and the escape of mucous or other fluids from the tympanic cavity.

The pain experienced during the operation is trifling, and the relief almost instantaneous. The bleeding should be encouraged by the warm water douche, which may be used from time to time, should there be any recurrence of the pain.

We may regard paracentesis of the membrana in acute inflammation of the middle ear in much the same light as we do iridectomy in glaucoma. It at once relieves the tension of the parts and generally prevents the extension of the disease to the labyrinth, or mastoid cells, which might take place before spontaneous rupture of the membrana could be accomplished by nature. I therefore draw the following conclusions:

First.—That paracentesis is not a very painful or formidable operation.

Second.—That in it we have a quick, safe and permanent means of relieving the patient, from, probably, the most agonizing pain to which mortal man is subject.

Third.—That in it we have a most valuable and reliable means of cutting short the attack and bringing about a favorable termination of the disease.

Fourth.—By it we have a valuable means of preventing the extension of the inflammation to the labyrinth and mastoid cells; by affording a free exit to the pus; and a means of applying our remedies directly to the cavity of the tympanum.

ARTIFICIAL OPENING OF THE MASTOID PROCESS.

Professor SCHWARTZE, of Halle, read a paper on this subject at the Copenhagen Congress. He concluded that the operation is indicated: 1. In acute inflammation of the mastoid process, with retention of pus in the mastoid cells, if the œdematous swelling, pain, and fever do not subside after anti-phlogosis and free incision. 2. In chronic inflammation of the mastoid process with subacute (subperiosteal) abscesses or fistules of the mastoid. 3. With a sound mastoid on account of cholesteatoma or purulent retention in the middle ear which cannot otherwise escape, and symptoms arise which show that the life of the patient is in danger, or when a congestive abscess has formed in the upper posterior wall of the meatus. 4. When the mastoid is healthy, and there is no pus in the middle ear, but when the process is the seat of a long-continued and unbearable pain, which other measures have failed to relieve.

The operation is doubtful in an old case of incurable middle ear secretion, when there are no symptoms of inflammation of the mastoid, nor of purulent retention in the middle ear.

The operation is contraindicated when there are positive symptoms of already existing metastatic pyæmia, and of secondary meningitis of cerebral abscess. We may conclude, therefore:

1. That opening of the mastoid is a valuable measure for curing the most severe and dangerous diseases of the ear.

2. The danger of the operation is slight in proportion to the danger of the affection for which it is performed.—*Amer. Jour. Med. Sciences*, Oct., 1884.

LARGE DOSES OF POTASSIUM OR SODIUM IODIDE IN SUDDEN DEAFNESS OF SUPPOSED SYPHILITIC ORIGIN.

Dr. ALBERT H. BUCK, of New York, contributes a paper on the above subject to the *Medical Record*. The literature of this particular subject is scanty. The attention of the profession was first called to it in 1877 by Dr. Roosa's report of a remarkable case in which, from a condition of total deafness, the patient's hearing became nearly normal in a few weeks. The same author mentions another case, and two are recorded respectively by Dr. Samuel Sexton and Dr. David Webster.

In the majority of instances enumerated by Dr. Buck, the grounds for suspecting syphilis to be the cause of the deafness seemed to be amply sufficient, but in a few the evidence in favor of such a conjectural diagnosis was certainly not strong. In one case there was no direct evidence that the patient had ever had this disease. This remarkable tolerance of iodide of potassium (slowly increasing doses until 360 grains were taken daily for a period of one week) and the general resemblance of his attack to those of an acknowledged syphilitic nature, are the only grounds on which he could justify himself in placing this case in the same category as the others.

In the favorable cases the improvement began to show itself as early as during the second or third week of the iodide of potassium treatment. This would suggest the question whether it is really necessary to push the doses to the extreme limits recorded, viz.: 270, 315, 360, or 525 grains daily. This is a question which cannot be satisfactorily answered until a greater array of evidence shall have been gathered.

Reasoning from analogy, we are inclined to believe that these large doses are necessary; for many cases of local forms of syphilis are observed which grow worse until a certain high dose of the iodide is given and then the improvement is rapid.—*St. Louis Med. and Surg. Jour.*, Oct., 1884.

AFFECTIONS OF THE SKIN.

PRURITUS.

By LOUIS A. DUNNING, M.D., Prof. of Dermatology Univ. Penn.

From the *Medical News*, Sept. 20, 1884:—Pruritus is a functional cutaneous disorder, characterized by itching without structural change. The disease is a common one, and may occur at any age. Occurring in elderly individuals, it constitutes so-called *pruritis senilis*. The itching, as a rule, is paroxysmal, and is worse at night. The disease may be universal or local, usually the latter, occurring frequently about the anus, scrotum and vulva, where it may be most distressing. The causes are varied; in children, pruritus ani may be caused by worms in the bowel; in females, it may occur in connection with gestation, irregular menstruation, hysteria, organic disorders of the uterus and ovaries. It may also be associated with diseases of the kidney, albuminuria, diabetes mellitus, hepatic diseases, jaundice, also with diseases of the nervous system and genito-urinary tract. Pathologically, it is a disease of purely functional character, usually the result of reflex nervous action.

The disease demands both constitutional and local measures according to the cause, which should always be determined. The bowels should be regulated; if constipation exist, saline laxatives are indicated; if there be any dyspepsia, the diet must be regulated, and all indigestible articles of food prohibited. Where there is general debility, tonics, as quinine and strychnine, and the belladonna may be prescribed; and where the kidneys are at fault, or the disease is secondary to jaundice, the alkalies may be

used with advantage. Sulphur and its preparations, especially the hyposulphite of sodium, are sometimes useful. External treatment is always demanded. Hot water applications and alkaline baths and the tarry alkaline lotions are of service. Lotions are valuable containing carbolic acid and thymol, simple or as follows:

R. Acidi carbolici, f 3 ss to f 3 j; potassæ, f 3 ss; aquæ, f 3 iv. M. Sig. Use a lotion, diluted with water.

One containing corrosive sublimate may also be given: R. Hydrargyri bichloridi, gr. viij; alcoholis, f 3 iv; aquæ, f 3 iij ss. M. Sig. Use as a lotion, diluted.

Essence of peppermint and glycerine, equal parts; dilute hydrocyanic acid, one to four drachms to the pint of water; and hyposulphite of sodium, one drachm to the ounce, may prove useful. Of the numerous formulæ, the following may also be mentioned:

R. Boracis, 3 ij; glycerinæ, f 3 ss; spts. camphoræ, f 3 j; aquæ rosæ, f 3 vj ss. M. Sig. Lotion.

R. Fol. belladonnæ; fol. hyoscyami, ss 3 ij; fol. aconiti, 3 ss; acidi acetici, f 3 j. M. Sig. Lotion, to be diluted with water, one drachm to the ounce.

R. Camphoræ; chloralis hydratis, ss 3 j; Ungt. aquæ rosæ, 3 j. M. ft. ungt. Sig. Apply several times daily.

Pruritus hiemalis is a name employed to designate an irritable condition of the skin accompanied by itching and occurring during the winter months.

MULTIPLE XANTHOMA.

By W. A. HARDWAY, M.D., Prof. Dermatology in the Mo. Med. Coll., St. Louis.

From the *St. Louis Courier of Medicine*, Oct., 1884:—M. M., male, æt. 44, born in Germany, occupation cook. The color of the skin at once strikes the attention. It is of a decided bronze hue, almost black, and darker in some situations than in others. The conjunctivæ are also involved in the general discoloration, but are much lighter than the skin. Indeed, the man looks as if he were the subject of Addison's disease rather than jaundice. Dr. Hardway then describes the lesions as seen upon the head and face, upper and lower extremities and trunk, and says of the color of the lesions, that the plaques on the eyelids presents the fawn or buff tint usual in this situation. The tubercular and tuberoso growths vary in tint. Most of the small isolated tubercles are yellow; in some places, where they have massed together the masses are bronzed like the skin. Many of the tumors are a darkish red, but when pressed upon become yellow, not as a whole, however, but in a mottled way.

From a careful consideration of this and other cases that have come under my observation, and a thorough study of the literature of the subject, I am inclined to suggest that xanthoma is a diathetic affection, and that its connection with the liver, and the frequent jaundice, occurs only in a secondary way. In other words, it seems to me plausible, that when jaundice precedes the xanthoma it is because xanthomatous lesions have been primarily deposited in the liver; and unless this occur, there may just as well be a xanthoma without jaundice—as has, in fact, been often seen; but that the liver is peculiarly prone to these growths, and that it is for this reason we see so many cases of xanthoma which have been preceded by, or associated with, jaundice.

HERPES ZOSTER.

Dr. ROBERTS BARTHOLOW, of Philadelphia, in a lecture published in the *College and Clinical Record*, Sept., 1884, says that herpes zoster is not, properly speaking, a cutaneous malady, at least in the sense in which we usually employ that term. It is a neural affection, a neuralgia of the skin. It is an affection of the cutaneous nerves with a secondary skin manifestation, and is probably due to irritation of the trophic elements which pass down with the sensory filaments. This causes a secondary herpetic eruption, which maps out the distribution of the cutaneous nerve. A single filament may be affected, or two or three may be involved.

In the treatment of this affection, the remedies are to be more particularly addressed to the nervous system. There are many remedies which might be used. One of the best preparations is chloral camphor, in which morphia has been dissolved:—R. Camphoræ; chloralis, \mathfrak{ss} 3j; morph. sulph., gr. x. M. Sig. To be painted over the affected part.

This solution applied to the affected part relieves the pain and promotes healing. A mild stable galvanic current, direct, is also a most effective remedy. If the pain is severe, the hypodermatic use of morphine may be required, or by the stomach a full dose of quinine and morphine may be given. As it is a self-limited disease we may be content with local anodyne applications, and await the effect of time.

LEPROSY IN THE UNITED STATES.

In a paper read before the Iowa State Med. Soc. last May, and reproduced in the *Sanitarian*, Dr. R. J. Farquharson considers the above subject. He states that it exists in Iowa, they being imported cases brought over from Sweden. From 1869-70 Prof. Boeck observed 18 cases in Iowa. In Minnesota the same observer noticed four cases in 1870. In 1878 Dr. Grönvold reported four cases; the same ones observed by Boeck. The cases are from Norway. In Wisconsin, Boeck saw nine cases and in Illinois, two. In the Southern States the number is greater. Dr. S. J. Jones, Louisiana, a few years ago described a number of cases occurring in Louisiana, and in the East a number of isolated cases have been described from time to time. Dr. Geddings, of Aiken, S. C. (*Med. Rec.*) says that he has noticed about twenty cases in the last twenty-five years. It is more common among the whites, but not entirely confined to them. In none of the cases was the disease hereditary. There is also no evidence of contagion and cases are not isolated. The author says that "as isolated cases of leprosy have been observed on the coast of South Carolina for nearly forty years without any apparent increase in the number of cases, it may safely be inferred that there is but little danger that the disease will ever become endemic in this section."

A Case of Indigenous Leprosy.—Such is the title of a paper by Dr. Geddings. The patient, Miss —, is twenty years old and the disease made its appearance ten years ago. The patient is well developed but presents a cachectic appearance. The skin, with the exception of a small area over the sternum, is everywhere of a dirty brownish-yellow color, while that over the sternum is abnormally white, presenting the appearance of ordinary leukopathia. Over the face are a number of round tubercles of various sizes, the more mature being somewhat larger than a full-grown marrowfat pea. They are distributed over the whole face, but are much more numerous on the chin than elsewhere. On the forehead, especially over and above the eyebrows, may be seen the flattened remains of tubercles, which, according to the patient's statement, had disappeared during a recent attack of fever. These latter give the face the peculiar leonine expression so often observed in leprosy. The skin over the great toes and corresponding metatarsal bones is much swollen, of a dark, dusky red color, and is very painful.—*St. Louis Med. and Surg. Jour.*, Oct., 1884.

LEPROSY IN BRAZIL.

Dr. J. McF. GASTON gives an account of leprosy in this region in the *New Orleans Med. and Surg. Jour.* The medical faculty of Brazil, it is stated, regard the disease as contagious—as much so even as variola. It is believed that hereditary influence plays an important part also in the production of leprosy, on account of the numerous instances in which children of leprosy parents become lepers.

The disease is not confined to any class of society, though people in the better walks of life are less subject to it than the humbler portions of the population.

The disease begins, it is said, in most cases, with the appearance of anæsthetic pigmented spots upon the hands, associated with marked engorge-

ment of the capillaries, giving them, when in a dependent position, a florid appearance, afterward becoming purplish, and finally of a bronze hue. After a few months tubercles make their appearance on the ears, nose, and eyebrows, the hairs of the latter falling out. Coffee-colored nodules appear later. The hands and feet become coffee-colored, with thickening and enlargement, which soon gives way to a shrinking of the tissues, forming characteristic depressions between the metacarpal bones of the thumb and forefinger. At this time there is usually a very considerable brownish discoloration of the ankles and the lower portion of the legs, but the rest of the body, which is protected by the clothing, preserves its natural appearance during the further progress of tissue degeneration about the face and extremities. Under the influence of depurative remedies, together with proper hygiene and diet, the disease may not, it is said, undergo any material aggravation for from one to two years; but, sooner or later, disintegration begins with ulceration and spontaneous amputation of joints, and finally death ends the scene. The writer believes there is no cure for the disease. In view of its tendency to become endemic in localities and of its probable contagiousness, he urges the importance of stringent measures being taken by the United States Government to exclude lepers from other countries, and to insist upon the absolute sequestration of those now here.

CUTANEOUS THERAPEUTICS.

A correspondent of the *Northwestern Lancet* writes: "One very noticeable feature is the almost exclusively local treatment of all skin diseases, except those due to syphilis, and the scrofulous or tuberculous diathesis. Though Kaposi mentions iron and arsenic in his book, I never saw it given or mentioned in the hospital. Scrofulous and chlorotic patients were given cod-liver oil, which was almost the only internal medication which I observed. He says the internal treatment of skin diseases was proven useless years ago in this hospital. He is accustomed also to occasionally express himself very strongly upon the doctrine that tubercle, lupus and syphilis are related diseases. He, as well as Neumann, repudiates this idea in toto. On every reference to the subject he says: 'Gentlemen, lupus is lupus, tubercle is tubercle, and syphilis is syphilis. Any shading of the one into the other does not exist. Syphilitic lupus is nonsense.' Lately he read that Koch claims to have discovered the tubercle bacillus in lupus nodules. He said on coming to the class: 'Gentlemen, if this be so, all I have to say is that it is bad for the bacillus, for it would be proof positive that he is not the cause of specific tuberculosis.' The favorite treatment of lupus is removal of the nodules with the caustic potash stick or a curette, and application of mercurial plaster.—*The Weekly Med. Review*, Aug. 9, 1884.

THE TREATMENT OF LUPUS.

In the *Kansas City Med. Record*, Sept., 1884, appears a translation by Dr. J. P. Knoche, of a Vienna letter in which the following plan of treatment is highly recommended by the Professor:—

After many researches I tried the emplastrum hydrargyri (or mercurialis), and I can now positively state that the same, in unison with acid-pyrogallic ointment, will in some cases produce exceedingly rapid, and in most cases excellent results; and in but very few cases uncommendable results will be obtained.

My method is as follows:—During excessive pus-formation, instead of applying some simple cerate or antiseptic (as acid carbolic, thyme-iodoform) to cause cicatrization, I immediately, on the day following the removal of the pyrogallic ointment (or better, emplas. pyrogallicum), apply emplas. mercurialis; in most cases I produce what the acid-pyrogallic ointment in itself fails to produce. The application of emp. hydrarg. alone will not produce the desired effect, as no absorption of lupus infiltration will follow.

MIDWIFERY,

AND THE DISEASES OF WOMEN AND CHILDREN.

AN ADDRESS IN OBSTETRICS.

By T. GAILLARD THOMAS, M.D., Clin. Prof. of Diseases of Women in the Coll. of Phys. and Surg.
New York.

From the *N. Y. Med. Jour.*, Nov. 22, 1884.—Were I called upon to sum up the treatment of a *declared undoubted* case of puerperal septicæmia, marked by the usual symptoms of pulse of 120, temperature, 105°F. or 106°F. which would meet the requirements of our time, I should give it categorically thus: (1) Quiet all pain by morphine hypodermically. (2) Wash out the uterine cavity with antiseptics. (3) Lower the temperature at once below a hundred, not by the barbarous method of the cold bath, but by the far better one of the coil of running water. (4) Feed the patient upon milk and nothing else, unless some good reason exists for changing it. (5) Exclude from her room all except the nurse and doctor, keeping her as quiet as possible.

EXTRA-UTERINE PREGNANCY.

Although the subject of extra-uterine pregnancy has attracted attention from the earliest days of medicine, it is only of late years that it has been carefully studied, its diagnosis put upon a firm basis, and its treatment systematized. Laparotomy, with its wonderfully beneficent results, has been brought to bear upon these cases before and even after rupture of the vicarious foetal nest. By this procedure, Jessup, of England, has succeeded in delivering at full term a child developed in the peritoneal cavity and saving at the same time the mother; and by it Tait, of the same country, has saved four women after the foetal sac has ruptured. But it is to the fœticide powers of the electric current, first used by Allen, of Philadelphia, and then by Landis and Reeve, that the safety of such cases can best be trusted. This method is harmless to the mother, even if an incorrect diagnosis be made, and effectual in producing foetal death if the diagnosis be correct. The number of lives which have already been thus saved is quite large, and is daily increasing. And these are the lives which in former times would have been sacrificed to inattention, or want of power in diagnosis, or a lack of reliable remedial measures, even if diagnosis were rendered pretty certain.

PREMATURE LABOR.

Some one has very pithily said of late that the medicine of a hundred years hence will consist chiefly of prophylaxis and surgery. It appears to me that the statement, which has more than one grain of truth in it, applies with great force to our subject of to-day. The day is, I feel sure, not far distant when preventive measures will be applied with a most triumphant result to placenta prævia, puerperal nephritis, placental apnœa, contracted pelvis, the obstinate, and often fatal, vomiting of pregnancy, and that extreme hydræmia which so often results in thrombosis.

Obstetricians are beginning to question themselves as to whether it is wiser in the interest of both child and mother, to wait and watch during the last two months of pregnancy until a sudden and furious hæmorrhage makes an issue unavoidable in placenta prævia, a convulsion announces the point of

tolerance in puerperal uræmia, or the cessation of fetal movement tells the tale that the crippled intra-uterine lung has ceased to have power enough to prolong fetal life. The methods of inducing premature labor are now so simple, so certain, and so void of danger that they, more than at any previous time, present themselves as a sovereign resource in such cases.

OBSTETRIC FORCEPS.

The obstetric forceps is probably the most life-saving instrument which surgery has ever invented; and from the time of the Chamberlens, about 1647, thousands in every generation have endeavored to improve it, thousands have handed down their names in connection with it by suggesting trivial modifications, and thousands have in their efforts rendered themselves butts for the laughter of their successors by reason of the vanity which guided them. Few, very few, real improvements have been made in these instruments, and these improvements have occurred at long intervals.

THE RELATIONS OF OVULATION AND MENSTRUATION.

By A. REEVES JACKSON, M.D., Prof. of Gynecology in the Coll. of Phys. and Surg., of Chicago, Ill.

From the *Jour. of the Amer. Med. Ass'n.*, October 4, 1884.—In the year 1673, De Graaf, a Dutch anatomist, described, in connection with the anatomy of the ovaries the bodies which have since borne his name.

In 1821 Dr. Power clearly enunciated the doctrine of the periodical ripening and rupture of the follicle at the menstrual period; and the discovery by Baer, in 1827, that the follicle was only the enveloping structure of the ovule and not the ovule itself made the rupture an intelligible and significant fact; and this may therefore be regarded as the birth of what is known as the ovulation theory of menstruation.

Négrier, in 1831, and, following him, Gendrin, Paterson, Barry, Raciborski, Bichoff, Pouchet, and others, furnished additional proofs, based upon anatomical observations, tending to show that menstruation was not only simultaneous with, but dependent upon and in consequence of ovulation. There have always been some one who doubted the correctness of this doctrine, and who considered the evidences alluded to as insufficient and inconclusive.

These alleged proofs consist (a) of observations made post-mortem upon the bodies of women in whom the date of the last menstrual period was known, and (b) of the effects following the artificial removal of the ovaries during life; and it is asserted that these observations justify the following propositions, namely:

1. In the human female, at regular periods of about twenty-eight days, a Graafian follicle is ripened and usually bursts, discharging a matured ovule which passes into the Fallopian tube and is transmitted to the uterus.
2. Coincident with, and dependent upon the maturation and extorsion of the ovule, certain changes occur in the mucous membrane of the uterus which result in a sanguineous discharge from that organ.
3. The removal of the ovaries is necessarily followed by a cessation of menstruation.

I will endeavor to show that these conditions have not been complied with in the discussion of the subject under consideration, and that, if they were, very different results would be obtained. Indeed, it is easily proven that either ovulation or menstruation may occur independently of the other, and that, hence, there is no necessary connection between the two functions.

(a) *Ovulation may occur without accompanying menstruation.*—Ovulation is a function of the ovary, and includes the ripening of a Graafian follicle and the discharge of an ovule. The evidences of the process consist in (1) the presence of an enlarged or ruptured follicle; (2) the presence, in the latter, of a blood-clot or corpus luteum; (3) cicatrices marking the seat of former rupture; (4) the occurrence of conception.

(b) *Menstruation may occur without accompanying ovulation.*

Lawson Tait, in a paper read before the Midland Medical Society, and published in the *Medical Times* for March, 1884, gives the record of 49 cases of

operations for removal of both ovaries, and he rests satisfied that the evidence so far has completely destroyed the ovular theory of menstruation. These cases are as follows:

1. Cases, nine in number, where it was evident that menstruation and ovulation were concurrent.

2. Cases of negative proof against the ovulation theory of menstruation, fifteen in number.

3. Cases, twenty-five in number, affording positive evidence against the theory.

(c) *The removal of the ovaries does not necessarily determine the cessation of menstruation.*

In concluding his paper Dr. Jackson says: My object has been only to present facts. To my mind, these facts justify at least the following conclusions: (1) Ovulation and menstruation may each occur independently of the other. (2) Ovulation is an irregular but constant function of the ovaries; while menstruation is a rhythmical function of the uterus. (3) Graafian follicles mature and rupture at any time, without any necessary connection with menstruation. (4) Menstruation may persist regularly without interruption, or may temporarily suspend and resume its regularity after the removal of both ovaries.

TEMPERATURE OF THE GENITAL CANAL IN PREGNANCY.

There are many *opprobria medicorum*, but among them there is none more glaring and more hoary with years than the uncertainty which surrounds the question of the diagnosis of pregnancy, especially during the period prior to quickening. The question has engaged the attention of medical men from the earliest times, but they have as yet failed to discover a sign of pregnancy, the existence of which would justify them in positively declaring the woman presenting it to be *enciente*, or the non-existence of which can be taken as indubitable proof that the uterus does not contain an impregnated ovum. Of the many signs given not a single one can stand alone and is of value, only as it is supported by others, which are in turn dependent on it for support.

Among the latter symptoms which have been advanced as having value is that known as *Jorissenne's* which depends on the supposed variation in the rapidity of the pulse in the sitting and standing positions in the pregnant woman. Under ordinary circumstances there is a variation of from ten to twenty beats between the pulse in these positions, but during pregnancy, as in the condition of cardiac hypertrophy, as noted by Graves, no such variation occurs. This symptom is, however, no more reliable than any of the others, and of value only in the consensus of the whole.

Dr. Henry D. Fry calls attention, in the October number of the *American Journal of Obstetrics*, to the value of elevation of the temperature of the genital tract as a sign of pregnancy. He made observations on ten pregnant women, noting the frequency of the occurrence of the various signs most implicitly relied on as aids to the diagnosis of this condition—backache, leucorrhœa, the purple color of the vaginal mucous membrane, and the vaginal temperature. Backache was noted in four multiparæ; leucorrhœa in five; the purple color of the vaginal mucous membrane in seven; and the vaginal temperature was elevated in eight. The elevation was $1\frac{1}{10}^{\circ}$ F. in five of these cases, and $1\frac{1}{2}^{\circ}$ F. in three, the normal temperature being regarded as 98.6° F. The increase is, doubtless, due to the congestion of the uterine structures, incident to impregnation, the hyperæmia being necessary to the nutrition, growth and physiological development of the organs concerned. The elevation of uterine temperature produces, directly, some elevation of that of the vagina. It is true any pathological condition of the uterus sufficient to increase its temperature has a similar effect on the vaginal temperature, and herein is the sign unreliable in itself. The sign, therefore, while a valuable one, is not characteristic.—*Medical Age*, Oct. 25, 1884.

ANTISEPTICS IN MIDWIFERY.

By CHARLES JEWETT, M.D., Brooklyn, Prof. of Obs. and Diseases of Children in the L. I. Coll. Hosp.

From the *N. Y. Med. Jour.*, Nov. 1, 1884.—Antiseptic measures for prophylaxis in childbed may be divided into two classes: (1) Those addressed to the surroundings of the patient. (2) Those applied directly to the parturient canal during labor and the puerperal period.

The former aim to protect the patient by an aseptic environment. The latter assume to destroy or disarm septic matter that may have gained lodgment in the genital tract.

While the importance of the one class of procedures must be generally conceded, opinion and practice are by no means uniform in respect to the other.

Though for many years fully committed to their use, the recent experience of the writer has led him to abandon prophylactic injections as a routine practice in the puerperal period, and to place little dependence on them during labor. On the introduction of antiseptics into the Maternity service of the Long Island College Hospital, a marked improvement was at once apparent in the temperature charts. A normal thermometric line became the rule where it had formerly been the exception. Nearly sixty-three per cent. of the women confined in the year following the adoption of antiseptic precautions had normal temperatures during the post-partum week, while not more than sixteen per cent. had wholly escaped febrile temperatures before.

Early in 1883 I began a series of observations with a view to determine whether this improvement was due in any degree to the use of antiseptic injections during the puerperium.

Two parallel series of hospital cases were treated side by side, one with and the other without vaginal injections. Both series numbered twenty-nine patients—sixteen in the douched and thirteen in the non-douched class. The principal disinfectant was a 1-to-1,000 bichloride solution, a 3-to-5-per-cent. carbolic solution being used in a few cases only. The injections were administered by competent nurses, and it is fair to presume that they were managed with care and skill. They were repeated twice daily during the post-partum week. Of the sixteen douched cases, eleven had temperatures that did not exceed 99.5° F. in the first puerperal week. Of the thirteen non-douched cases, the temperature record was constantly below 99.5° F. in twelve. The morbidity was less in the patients left undisturbed by the douche. True, the departure from the normal was not necessarily always due to sepsis. Moreover, two operative cases were included in the douched series, while there were none in the other. While the result of these observations may not therefore be considered conclusive, especially in so small a number of cases, if it does not amount to an indictment of the puerperal douche, it certainly proves nothing in its favor.

The advantage obviously gained by the introduction of antiseptics was clearly due to other measures than the douche. Routine injections of the genital tract during the puerperium were therefore abandoned as a useless if not injurious practice.

Local antiseptic measures for prophylaxis were subsequently confined mainly to the labor period. Vaginal disinfection was practiced at the beginning and close of labor, and, in case of prolonged or instrumental delivery, was once or twice repeated in the course of its progress. This method was believed to be in keeping with antiseptic principles as applied in surgical practice. The field of the obstetric wounds was cleansed before solutions of continuity occurred. After labor the wounds were treated with the disinfectant while still fresh, and were then left wholly at rest.

Further experience, however, has somewhat shaken my confidence in the value of even this practice. [Dr. Jewett then gives the histories of three cases occurring in the maternity service and says]:

I have therefore been compelled, though reluctantly, to relax my faith in the protective power of local antiseptic measures in the parturient as well as the puerperal patient. They can not be relied on to procure immunity from in-

fection in the presence of septic surroundings. They must not be trusted to remedy the sins or accidents of *uncleanliness*. An experience such as I have recited goes to emphasize the importance of an aseptic rather than antiseptic management of the patient. The avoidance of infection, as some writer has expressed it, is a better reliance than disinfection. And it is to aid in accomplishing this and, by promoting a cleanly environment, that antiseptics are most valuable in obstetric prophylaxis.

With reference to the use of utero-vaginal injections as a therapeutic resource, the foregoing cases are also instructive. Much as I value the measure and brilliant as its results often are, there is, I am persuaded, a class of cases which are not at any stage amenable to this method of treatment.

MICRO-ORGANISMS AND PUERPERAL FEVER.

This is the title of a paper by Dr. Lomer, assistant at Professor Schröder's clinic in Berlin, appearing in the *American Journal of Obstetrics*. As remarked by the author, "the recent discussion upon puerperal fever at the New York Academy of Medicine demonstrated very forcibly what various opinions are still held upon this subject, and especially as regards its contagious principles, by some of the leading members of the profession in America;" and he adds, "but ideas expressed a few years since in the memorable discussion of the New York Obstetrical Society show that in that country the subject is considered from still more widely divergent standpoints." Dr. Lomer gives the following summary of conclusions:

(1.) Of all micro-organisms found in puerperal-fever, the chain-like micrococci seem to be those to which we should especially direct our attention, and to which we should attach the greatest importance. (2.) When in any case of puerperal fever their presence has been detected in the exudations, they have also been found in the deeper organs. (3.) They have been found in erysipelas, scarlet fever, diphtheria, and puerperal fever, and in each possess the same form, and show the same disposition towards fertilizing fluids and coloring matters. (4.) Although it is very probable that different varieties do exist among these diseases, we, as yet, have no positive proof of the fact. (5.) A differentiation, according to size, is an extremely difficult, perhaps hopeless task, but, according to manner of growth, it may be possible. (6.) Vaccination with cultivations of these micrococci from different diseases has proved fatal to animals, but has given no typical or characteristic result. (7.) Chain-like micrococci have also been found in infected wounds, and in the blood of pyæmic patients. (8.) The pathologico-anatomical investigations thus show that these clinically related diseases (puerperal fever, erysipelas, diphtheria, scarlet fever, and pyæmia) possess similar micro-organisms. (9.) Besides the chain-like form, other micro-organisms may be present in puerperal fever—i.e., mixed infection. (10.) The presence of these latter in the cadaver does not always prove that they existed in the living body; on the contrary, they are often the result of post-mortem decomposition. (11.) It is probable that the processes of decomposition are sometimes present before death actually takes place; different varieties of micro-organisms therefore found, for instance, during the death-struggle, may have nothing to do with the cause of the disease. (12.) It is, as yet, impossible to classify puerperal fever, as regards course and prognosis, according to the varieties of micro-organisms found (Doleria), or according to their mode of invasion (Fränkel). (13.) In some cases no micro-organisms have been found, but this does not prove that they did not exist.

DIPHTHERITIC COLITIS OCCURRING IN THE PUERPERAL STATE.

A specimen was presented to the *N. Y. Path. Soc. (Med. Record)*, by Dr. E. L. Partridge, with following history:

Lizzie C—, twenty-eight years of age, confined April 12th, 11.20 p.m., with her second child. The labor was entirely normal in all respects, and

she did well until the night of April 18th, when, immediately following a vaginal douche, she was seized with a severe chill lasting twenty minutes.

During the succeeding night, and while a vaginal douche was being given, a second and even more severe chill set in and lasted half an hour. The chill began half an hour later than the one on the preceding night. The douche was stopped, but a few minutes later the patient said she thought she must be urinating, as she felt something running. The nurse found the bed about the patient's hips soaked with blood, which was flowing from the vagina. A hot-water douche (120° F.) was at once given, which checked the flow somewhat, but it required two more, at intervals of a few minutes, to entirely stop it. Amount of blood lost, probably between eight ounces and a pint.

There was with the second chill, as with the first, some pain in the hypogastrium, this time on both sides; temperature 103° F. Next morning the temperature was about 98° F. Early the following day the patient had a bloody movement from the bowels, with a little pain, but no tenesmus; and during the day had seven or eight discharges, each containing fluid blood in varying amounts from $\frac{3}{8}$ ss. $\frac{3}{4}$ ij.

The extremities grew constantly colder, notwithstanding that hot bottles were used. Four hours before death the temperature taken in the axilla was 105.8° F., but the tongue and breath were cold, and the temperature under the tongue was 97° F. At the time of death the axillary temperature was 104° F. The pulse, which was normal the evening before, went up to 120 on the morning of the 20th, and grew steadily weaker and more rapid until death, when it was about 180.

The respirations were normal throughout. Mind perfectly clear up to within an hour or two of death, which took place in a state of stupor. Secretion of milk continued active up to time of death. The lochia continued, and were not ill-smelling.

N.B.—The douches in this hospital are given twice in twenty-four hours. They are tepid and contain corrosive sublimate gr. iv. to Oj. (1 to 2,000).

Autopsy.—Thirty hours after death. The uterus had a firm feel, was of about normal size; the interior surface was thinly coated with a small amount of exudation, most abundant over the placental site. There were no clots, and no offensive odor. The stomach and upper portion of the small intestine were normal. The mucous membrane of the lower portion of the ileum was congested; Peyer's patches were swollen, and this condition increased quite rapidly toward the ileo-cæcal valve. The mucous membrane of the entire extent of the large intestine was intensely congested and swollen; its color varied from a scarlet to a livid red or purple, and certain areas had a dirty chocolate color. The solitary follicles were swollen. This intense hyperæmia was quite uniform, but most marked in the cæcum and hepatic flexure, and again in the sigmoid flexure. In portions of the cæcum there was a finely granular appearance. The large intestine contained a dirty, reddish-brown fluid, apparently blood and pus, in large amount, and gave a peculiarly offensive odor.

PUERPERAL INFECTION.—ANTISEPSIS AND ANTISEPTICS.

By P. B. CHRISTIAN, M.D., Little Rock, Ark.

From the *St. Louis Courier of Medicine*, October, 1884:—With regard, however, to the matter of vaginal and uterine irrigations immediately following the completion of labor and to be kept up for several days, this seems to me not only a most unnecessary proceeding but one that directly antagonizes the reparative process, and one too that must be fraught with the most direful consequences.

If puerperal fever be septicæmia, and the latter be due to the absorption of septic material from abrasions along the genital track following labor, then it does appear to me that by early and frequent irrigations, as has been proposed, we not only fail to arrest or prevent the introduction to the system of this septic matter, but with every use of the syringe we but open the door for its more effectual and speedy entrance, and at the same time retard to a

larger extent the healing processes of nature. Such a measure under such circumstances, with no exceptions or modifications, is not in accordance with true antiseptic principles, nor with the laws governing a natural process, which, as a rule, is unattended with changes or followed by evil consequences. It is furthermore a measure that is not only meddlesome in a high degree, but one that is calculated to bring disrepute upon true and honest medicine, and especially the art of obstetrics.

Cleanliness of patient and all surroundings without being carried to the extent of interference or annoyance, together with good ventilation and an equable temperature, are measures that are truly antiseptic and all sufficient and cannot be too highly commended not only in the lying-in-chamber, but under all circumstances of disease or injury.

PUERPERAL FEVER.

Dr. W. D. SCHUYLER, of New York, on the etiology of the disease, concludes a paper, published in the *N. Y. Med. Jour.*, as follows:—(1) That puerperal fever and puerperal septicæmia are essentially two distinct diseases. (2) That they both arise from blood poisoning through the predisposed generative tract, but the poisons which generate them are not the same. (3) That the puerperal woman in private practice is not especially liable to contract puerperal septicæmia, and that she only contracts puerperal fever from a specific malarial contagium.

AN EPIDEMIC OF PUERPERAL SEPTICEMIA.

By E. S. MOSS, Williamsburg, Ky.

From the *Louisville Med. News*, Oct. 11, 1884:—In the southwestern part of this place there occurred a very fatal outbreak of this fever, in all fifteen cases, only one of which recovered.

These cases ranged over a period of six months, and during that time there were a few cases of erysipelas in the same community, but not in the immediate neighborhood of these patients. Some of the patients were waited on by physicians and midwives who had seen previous cases of puerperal fever or erysipelas, and others had not. When I first heard of so many cases in that locality I, like most others, was ready to censure the attendants for carrying it from patient to patient. But when I saw it developed in spite of all precautions, and prove just as fatal, I was compelled to take a different view of the situation.

From the facts as above stated it would seem that we have here in the same locality side by side, as plain as the handwriting on the wall, the two varieties or sources of infection. For while it is certain that the specific poison was carried from some patients to others by attendants, it is equally certain that cases did occur in which there was positively no such chance of infection, while there were reasonable grounds to believe that they did not occur from retention of secundines in uterus or vagina.

There was a distinct line to be seen between these two classes of cases. In those occurring as a distinct zymotic fever, with no visible means of infection, the attack was later after delivery, and the cases were milder, the patients suffered less pelvic pain and lived for some days or weeks; while those of direct infection were taken in the first eight to thirty hours after delivery, had violent pelvic pain, and death occurred in a short time, the first four days being the limit of these cases.

With the incidents of this epidemic before me, I am constrained to take the view that puerperal fever, strictly speaking, is a purely zymotic fever, but when once developed it may be carried from patient to patient by attendants, and when so carried that it is more fatal and gives less prospect for favorable treatment than the original zymotic fever. It is, moreover, clear that either of these types of the disease are more fatal than that form occurring from retention of the secundines, which is classed as the same, though the symptoms clinically and the appearances at post-mortem prove them to be considerably alike. The greater difference in their mortality must some

day lead to a closer investigation, which will probably result in the drawing of a sharp distinction between them.

REMOTE PUERPERAL HÆMORRHAGE.

By T. GAILLARD THOMAS, M.D. Clin. Prof. of Diseases of Women in the Coll. of Phys. and Surgs., New York.

From the *N. Y. Med. Jour.*, Sept. 6, 1884:—I have seen a good many of these cases, and the history of one which I will relate illustrates the experience that I have had with most of them. In such a case the uterus may have contracted after labor, and everything have gone on properly until the ninth day, when the physician has ceased to make his daily visits, but from that time the woman begins to lose blood steadily. If she makes a little unusual effort, or if anything occurs in the family to cause considerable mental excitement, an exceedingly dangerous hæmorrhage may take place, which will require to be checked by the tampon. If sudden and profuse hæmorrhage does not occur, demanding the services of a physician immediately, a steady loss of blood in moderate amount may continue for a week or ten days, until the woman becomes very much exhausted.

In the particular case of which I have had the history in mind, on the ninth day after delivery hæmorrhage occurred, and she sent for her physician, who used all the ordinary means, including ergot, tannic acid, dilute sulphuric acid, etc., for stopping it, but without avail. The tampon, however, was not resorted to. About three weeks after her delivery the patient was seized with very profuse and violent hæmorrhage, which reduced her very much. It came on after she had got out of bed. When her physician reached her the hæmorrhage had ceased. Each time it had begun with the passage of a large blood-clot. On this occasion I was consulted, and I visited the patient three days later—the next time that hæmorrhage occurred. I took with me a nurse and instruments for dilating the uterine canal and for removing the remains of membranes. Her physician, however, felt very positive that none of the membranes had been left in the uterus, and stated that he had examined the placenta very carefully, and that there was no interruption of its continuity whatever. But I felt equally positive that some of the placenta yet remained in the uterus.

I was sent for the next day. The patient was then etherized, the uterine canal was dilated; the curette was passed, and three pieces of placenta were removed, each as large as the last phalanx of one's index-finger. Very little hæmorrhage was excited by the operation, and I felt that in removing the pieces of placenta I had removed the cause of the hæmorrhage.

The point I wish to make is, with reference to what I believe to be the usual cause of delayed puerperal hæmorrhage and the proper means for its cure.

With regard to the statement, so often made, that the placenta has been examined carefully and found entire, it usually amounts to nothing. In the first place, we know that the physician commonly looks at the after-birth hastily and in a careless manner. Besides, I believe that little pieces may be broken off and remain behind, which no man could recognize from an examination of the placenta, though he examined it with the utmost care. As in this case, so in all others of delayed puerperal hæmorrhages that I have met with, it has been due to retained placenta or membranes. Dr. M'Clinck mentioned a case in his practice which, I believe, proved fatal. I have met with some which very nearly proved fatal, and doubtless others have encountered similar cases.

THE DELIVERY OF THE PLACENTA.

From an editorial in the *Medical News*, October 25, 1884:—The proper management of the third stage of labor is one of the most important practical questions in obstetrics. Indeed, in the great majority of cases of labor the obstetrician has no more responsible duty than the delivery of the placenta.

Many a life has been lost by the obstetrician doing a wrong, or failing to do a right thing at the right time in regard to the separation and discharge of the after-birth; a uterus has been inverted by improper traction of the cord, or by pressure upon the fundus, a fatal hemorrhage has followed neglect to deliver the placenta, or a mortal septicæmia from the introduction of the hand into the uterus, and removal of the secundines in piecemeal, this removal then being usually incomplete.

The method of delivering the placenta known as Credé's, was published to the profession several years ago, after its distinguished author had given much practical study to it. It was received with much favor, and was more or less generally adopted, so that almost every obstetrician was ready to cry out, *Io Credé!* But after a time the research of obstetric scholars proved that placental expression—for this is the essential idea in his method, though some of the details in its execution are peculiar, was not a new thing, for it had been advised and practised by some distinguished obstetric authorities in the eighteenth century. More recently Dr. George S. Engelmann found that among some primitive peoples placental expression was the rule of practice. Finally, there were not wanting some who criticised and condemned the method advised by the Leipsic obstetrician, after having made use of it, a few even replacing it by absolute expectancy. Instead of crying, *Io Credé*, they denied owing him anything.

Contributions to the study of the subject, historical, theoretical, practical, and statistical abound, and the number seems to be constantly growing. Among recent ones to which our attention has been especially directed we may mention an elaborate monograph "*De la Délivrance par Traction et par Expression*," by Ribemont-Dessaignes; the "*Removal of the After-Birth*," by Dr. Garrigues, published in the *American Journal of Obstetrics*; "*Critical Notes on the Delivery of the Placenta*," a paper of great interest and value read before the Ohio State Medical Society, by Dr. J. C. Reeve; a paper by Lumpe upon the "*Physiology and Pathology of the After-birth Period*," found in the *Archiv für Gynaekologie*; and the paper read by Professor Stadfeldt before the Copenhagen International Medical Congress, an abstract of which appeared in our issue of October 4, 1884.

As the distinguished author last referred to seems to give full endorsement to Credé's method, it may be well to bear in mind that others entirely dissent from it, and still others desire in its execution a change in the time of doing it. Ribemont-Dessaignes asserts, after a very patient and large study of the subject, that delivery by traction ought to be the rule, and delivery by expression the exception. Dr. Reeve remarks in his paper: "When Credé states that in two thousand labors the average duration of the third stage was only four minutes and a half, he writes down his own condemnation. This is not nature." Lumpe says that "the expression of the placenta should not be made immediately after the birth of the child, provided the conditions are normal; the after-birth pains should be allowed to act, and the delivery be made at the end of half an hour; it is then easier, and the woman is saved suffering." This conclusion Lumpe has drawn from his own experience, and he has become convinced by that experience that the removal of after-birth is much easier if one delays expression until half an hour after the birth of the child.

Statistics prove that in almost all cases in which the expectant plan is followed, spontaneous delivery of the placenta occurs within two hours. Conceding that this plan involves no risk, the comfort of the patient and her relief from anxiety are considerations which the accoucheur cannot ignore, even if he may be so perfectly free from duties to others as to sacrifice two hours or more of his time for the tardy discharge of the placenta. Until the final act of labor is over, a woman cannot be made comfortable as to her body while her mind is in an anxious condition, lest some serious accident impends; and she is thus denied the rest she so much desires and so greatly needs. Even if there were no other grounds, these would be sufficient for rejecting the expectant method of treating the third stage of labor.

Immediate interference is also to be rejected, as well as the administration of ergot in normal cases. He who gives ergot to a woman in the third stage

of labor must have some stronger reason for his action than simple delay in the expulsion of the placenta. If from all the cases in which the placenta was said to be adherent, those were eliminated in which ergot had been given, the number remaining would be very small.

We believe the best practice is not especially to observe the rules of Credé, but to obey those of the Dublin School—"to follow the uterus down" by one or by both hands adapted to its form and its lessening size with the expulsion of the child, and to keep up this moderate manual pressure, which should not be so strong as to give the patient suffering, the hand acting for time as a sentinel and as a guard; and then, as soon as uterine contractions become pronounced, assisting by a firmer pressure in the expulsion of the placenta. For this assistance in discharging the placenta, a definite time cannot be laid down; but one acts with nature, whether the delay be ten, thirty, or sixty minutes.

THE MANAGEMENT OF THE PLACENTA.

In a paper read before the Ohio State Medical Society, Dr. J. C. REEVE, of Dayton, said:—Although, over and over again, in lists of cases of inversion "pulling at the cord by the midwife" is given as the cause, I believe that in many cases this is pure assumption, and that in the majority it is gross injustice. The annals of obstetrics show that ignorant midwives have done all sorts of outrageous things, but, when it comes to inverting the uterus by pulling at the cord, the physician is certainly more likely to do it than a midwife. He pulls in the axis of the straits of the pelvis, of which she knows nothing, and a large portion of the force she applies is expended in drawing the cord against the pubes. I presume there are few members here who have not been called to cases where the cord has been torn off in attempts to deliver the after-birth, and all know how fragile it is and how easily it gives way. There must be a favoring condition of the uterus, a state of complete inertia, as the prime factor in the process whenever traction on the cord has been effective in causing inversion.

If this serious accident of childbirth is to be referred to modes of delivering the placenta, I take the ground that it is quite as likely to result from the present accepted mode—Credé's—as by pulling at the cord. Given the state of inertia of the uterus just referred to, which is one of the conditions for inversion, and pressure on its external surface cannot fail to produce a dimpling or depression of the fundus which then, by the well-known process, becomes complete inversion. Possibly I shall be indicted for intimating that a process so generally followed and so universally lauded may not be perfect. But I do not hesitate to say that Credé's method cannot always be carried out; it is not always possible to grasp the uterus and apply pressure generally over its surface, or over the major part of it; and I take the position that, if the pressure is applied to a portion of the uterine globe, it is liable to produce depression of the walls, the initial step of inversion; that if Credé's method is unskillfully performed it is as likely to cause disaster as is delivery of the placenta by traction. In a debate at the London Obstetrical Society, Dr. Edis called attention to the increasing frequency of uterine inversion, and stated his belief that it was due to the employment of too much or ill-directed force in the expulsion of the placenta according to the Credé's method. Spigelberg recognizes expression of the placenta as a cause of inversion, and gives references to cases. Mundé, in this country, has expressed his dissatisfaction with Credé's method. Many of Credé's countrymen have written against it. And I must add that, when Credé states that in two thousand labors "the average duration of the third stage was only four minutes and a half," he writes down his own condemnation. This is not nature. Smellie recognized the truth. For the safe delivery of the placenta we must wait awhile; allow the uterus a time of rest; give its fibers time to undergo tonic contraction, and its ganglionic centers time to gather power for the final effort. With clear recognition of the physiological process we can render intelligent and efficient aid in pathological conditions.

No teaching as to the delivery of the placenta can be scientific which does not direct a consideration of the character of the preceding labor, and as the character of labors varies, so must the management of the third stage. If the pains have been frequent and energetic and the birth of the child rapid, the placenta may be delivered very soon; if the labor has been tedious and delivery slow, or if the uterus has been exhausted by violent and long-continued effort, time must be given for the recuperation of its contractile force and nervous energy.—*Columbus Med. Journal.*

IS INTROMISSION 'NECESSARY TO CONCEPTION?

This question has been pretty conclusively answered in the negative, but well-authenticated cases in proof of it are not yet superfluous. Two such are cited in the *Medical Press*, one reported by Dr. Cass, of Dresden, and a second by Dr. Longshore, in the *Philadelphia Medical and Surgical Reporter*. Dr. Cass was called to attend a lady in her third confinement. An examination being made, he found the vaginal canal almost entirely closed, at a point two and one half inches from the orifice, by a firm, unyielding band or curtain. On the pubic side of this curtain there was an opening barely sufficient to permit of the introduction of the top of his little finger. This obstruction was the result of some inflammatory mischief after the birth of her second child. Direct intromission of semen into the womb was evidently impossible; nevertheless, conception had taken place, and the patient's hopes of safety from child-bearing blighted. The membrane was ruptured with the exercise of some force during labor, and delivery safely effected.

Dr. Longshore reports of his case that he was consulted by Mrs. A., a recently married woman, aged nineteen. She had always menstruated regularly and comfortably until after her marriage, which had taken place some three months before coming under his care. Coition was impossible, as the os externum was closed by the hymen, which was very firm and inelastic. It was only after a long and diligent search that a foramen large enough to admit, with difficulty, a No. 11 catheter was found close under the urethra. This condition was undoubtedly congenital in its origin. All her symptoms indicated pregnancy. Dilatation failing, the hymen was divided by means of scalpel and director. Six months afterward the lady had a normal confinement, from which she made a good recovery. This case proves the possibility of conception under circumstances where it was absolutely necessary for the spermatozoa to travel a long way before impregnation could take place.—*Boston Med. and Surg. Jour.*, Sept., 1884.

THE USE AND ABUSE OF THE FORCEPS.

Professor GOODELL made the following remarks, *Med. and Surg. Reporter*: "Tears of the perinæum will occur whether the physician uses the forceps or not, but in the majority of cases they come from the use of the forceps, or rather from the abuse of the forceps. Let me give a piece of advice to you as young men. When the proper time comes put on the forceps and boldly bring down the head, but when it begins to bulge the perinæum, take off the forceps. I do not think that any of you are competent to deliver the head over the perinæum with forceps. The temptation is to turn the head out too quickly. If you take off the forceps you will rarely have a bad tear, and if it does occur you will not get the blame for it. It is a very rare thing for me to end a labor with the forceps on. When the perinæum begins to bulge, I support the handles to see whether the pains are strong enough to end the labor. If so, I remove the forceps. There is such an abuse of this instrument that I sometimes think that Baudelocque was right in the statement that the forceps had done more harm than good. It requires great skill and judgment to end a labor with the forceps. A physician from inexperience, or being demoralized by a long and tedious labor, is liable to use undue violence and deliver the head too quickly, or to make traction in the wrong direction. I have myself torn the perinæum, and seen many good physicians do the same. Occasionally one blade will catch over an ear and you

cannot get it off; but in the majority of cases it can be removed, and that is the proper thing to do."—*Boston Med. and Surg. Jour. Sept., 1884.*

DYSTOCIA FROM COILING OF THE CORD ABOUT THE NECK OF THE FŒTUS.

From the *Boston Med. and Surg. Jour.*, Oct. 16, 1884:—Dr. RACHEL in the September number of the *American Journal of Obstetrics*, details five cases of this complication occurring in his own practice, and gives some reflections upon its occurrence and treatment.

The shortest cord ever measured (Cazeaux) was two inches long, and it was torn just before the expulsion of the child; but, of course, in this case the cord went directly from the umbilicus to the placenta. The shortest cord measured by the writer was ten inches, and there being no coil about the neck it gave little inconvenience during labor.

The writer's conclusions are summarized as follows:

Diagnosis. (1.) Descent of the head during the pains and retraction during the intervals. (2.) Insufficient head flexion and over-rotation of the occiput. (3.) Variability of the position of the head within narrow limits. (4.) Distressing pain at the seat of the placenta. (5.) Discharge of some blood immediately after each pain.

If rigid perineum, dorsal displacement of an arm, or head and arm presentation can be excluded the first symptom, especially when combined with some or all others given, point to true or accidental shortening of the cord.

Treatment. (1.) Anæsthetization of the patient. (2.) Extraction of the head by the forceps and division of the cord to allow the delivery of the body. Or, in extreme cases. (3.) Division of the cord within the vagina, followed by the application of the forceps.

The early division of the cord may be urgently required to save the life of the child, as is illustrated by Dr. Lusk's case, and by a case cited by Cazeaux, where it was delayed two hours after the birth of the head. It also militates against two other formidable accidents, namely, inversion of the uterus and flooding.

DETERMINATION OF SEX.

Dr. FUNKHOUSER (*St. Louis Courier of Medicine*, Oct., 1884) believes that we shall find in a typical male child that the twisting of the cord will be in one direction and in a typical female child in the opposite direction. In one case that he had recently seen this idea was fully confirmed. Twins of opposite sex were born in separate bags or membranes and the twisting of the cord was in opposite directions. The placenta were on opposite sides; in the typical female the placenta was on the left side, in the typical male on the right. These remarks had a connection with the subject of the determination of sex. Dalton in his *Physiology* refers to the twisting of the cord. He states that in 260 cases 138 twisted from left to right; in 112 cases from right to left. In some the twisting was imperfect.

Dr. Kingley.—I would like to ask Dr. Funkhouser what he means by *typical male* and *typical female* children?

Dr. Funkhouser.—From some experiments which I have performed I have found that the pups as the result of a fruitful union of a male dog from which the left testicle has been extirpated with a bitch from which the left ovary has been removed, will be male; where there is union of a dog from which the right testicle has been removed with a bitch having the left ovary only, the result of pregnancy will be female pups.

I find that the ovaries have nothing to do with the determination of sex in general. In the paper published, the subject is discussed at length. Of course these experiments cannot be made on human beings, but it will be seen that a typical male or female child is one in which the zoosperms from one testicle unite with the ovum from the ovary of the corresponding side; for instance, the union of the zoosperms from the right testicle with the product of the right ovary would produce a typical child; whereas, one that is

the result of the union of zoosperms from the right testicle with an ovum of the left ovary would not be a typical child. The theory has been advanced that the determination of sex is dependent upon the number of zoosperms that enter the ovum, but this theory has been proven to be incorrect.

Dr. Prewitt referred to Dr. Gregory's record of a case where he had removed the right testicle twenty years ago in a patient in Illinois and who had had nine children since the operation, and eight of them were males and one them females. Now if that were true it would seem to present a formidable obstacle to this theory of Dr. Funkhouser's. If it were a fact that the right testicle produces offspring of one sex and the left of another, this matter would have been settled long since by stock raisers, to whom it is a matter of immense interest. For my part I don't believe there is anything in it. I would not believe it unless there had been a sufficient number of experiments to settle the question beyond all doubt. I do not believe that one testicle or the other determines the sex. I think the man is supplied with two testicles and woman is supplied with two ovaries to insure the propagation of the species, not to determine the sex.

POST-PARTUM HEMORRHAGE.

By JAMES F. HIBBERD, M.D., Richmond, Ind.

From the *Amer. Practitioner*, Sept., 1884:—There is no accident of the lying-in chamber that demands of the medical attendant so clear a head on the instant as a sudden gush of blood in a large stream from a uterus that has just been emptied of a fetus.

The accoucheur, therefore, whether a young or an old one, who does not in advance have his mind fully imbued with the principles that should guide him in such an emergency, and his wits in such command at the moment as to be able to efficiently apply these principles without hesitation, is in such condition that he may speedily become a moral homicide, for the person who undertakes to practice midwifery and through ignorance or misconduct permits a woman to die of hemorrhage that a competent practitioner would have arrested is guilty of real, though perhaps not legal, homicide.

It would be an error, in my judgment, to suppose that in these cases the fault, if fault there be, always lies in not enough being done. I am apt to believe that often there is more done than is healthful; not necessarily because the things done are wrong of themselves, but because too much has been done of that which was in appropriate measure good. It may be likened to the administration of morphia for pain. A quarter of a grain may be good and safe for enteralgia, but a quarter of a grain administered every fifteen minutes for an hour might be fatal. But the force of this argument will be more apparent after inquiry into the nature of this hemorrhage.

It seems to be conceded that, in the hemorrhage we are discussing, the blood escapes from the uterine sinuses at the attachment of the placenta, which attachment has broken in whole or in part, leaving the sinuses open and pouring out their contents.

In the instances where there is hemorrhage from this source notwithstanding the contraction of the womb, if any such there be, the arrest of the flow must be accomplished by securing the plugging up of the open end of the sinuses by whatever means we have at hand, that will be efficient without being mischievous.

Supposing one has a puerpara who has bled freely, dangerously, and the womb was fairly contracted but has relaxed a little, and the woman is faint, gasping, or even in complete syncope, what is to be done? Shall we sprinkle the face with cold water, apply ammonia or other volatile pungent to the nostrils, chafe the limbs, and do other popular professional expedients to revive the patient? Apply cold to the hypogastrium and vulva, examine the uterus, which will be found filled with a coagulum, turn out the clot and insert ice, or inject hot water, or lave the whole interior wall with Monsel's solution? What would you do, my young friend, in such an emergency? There is, I fancy, no better way to make impressive the point I wish to have prominent than to narrate a case.

Mrs. —, aged twenty-eight, second confinement. Labor rapid and relatively easy, the second stage continuing about two hours. The womb was fairly contracted immediately after the extrusion of the child, and then the ordinary time was consumed in attention to the child, say fifteen minutes. [Important omission. The hand of either the physician or an intelligent nurse *should not cease to grasp* the "ball" in the pelvic cavity for at least fifteen minutes immediately after the delivery of the child.—Ed.] Turning to the mother, I found she was bleeding freely, which was not arrested by subjecting the womb to massage through the abdominal walls, nor was the placenta thereby passed down into the vagina. The uterus was found in a state of hour-glass contraction, the constriction being about the middle, with the placenta in the upper division. With prudent haste I dilated the stricture with my fingers bunched pyramidally, to find the placenta not lying loose in its abnormal chamber, but more firmly adherent than I remember to have met with before, requiring to be crushed off, as it were, by careful vigor with the ends of my fingers. This task performed, by external manipulation I secured contraction of the womb as I withdrew my hand, and immediately gave her a full dose of fluid extract of ergot, a medium dose of morphia and a moderate dose of alcohol, then sat down by the bedside with my left hand on the abdomen over the uterus, which was now slightly enlarged, my right hand fingers on the pulse, and awaited events. They came rapidly. In removing the placenta the patient's head had been placed on the same horizontal plane with her body, and it was left thus. Here pulse was quick and feeble. She was anxious and distressed, complained of flashes of heat and a sense of suffocation, the pulse faded rapidly, was no longer discernible, the breathing ceased, and all was quiet as the grave—my patient had fainted—and still I moved not, nor allowed any one else to move. No water to her face, no camphor to the nose, no rubbing of the extremities of my patient lying there in the similitude of death; but I sat and watched and hoped. Presently there was a faint wave at the wrist, then a half-developed sigh, and anon the fullness of respiration in my patient and a restored circulation were the evidences of her return to conscious life, and still I sat and watched. In a few minutes the breathing was again hurried, another expressed apprehension of smothering, and again the pulse faded to indistinctness, and for the second time my patient had swooned from loss of blood, and yet another time no restoratives were applied, but the case left to the recuperative resources of nature, and they were equal to my anticipations and desires. The phenomena of active life soon re-appeared and reached a satisfactory state, and after a further watch of an hour I called the attention of the nurse to the state of affairs, and assured the confiding mother that all immediate danger was past. No subsequent evil was manifest, and the patient had speedy and complete recovery.

"Was this sound and safe practice?" "Well, it was certainly safe; and that, I suppose, establishes its soundness, in this case at least."

"But," continues my learned and experienced confrère, "suppose Mrs. — had never recovered from that swoon?" "That would indeed have been bad; but did you ever see such a case fatal in that wise?" "No; but I have heard of instances where a person has fainted dead."

"Yes, certainly, and I have seen them; and that in spite of camphor, ammonia, and all the usual so-called restoratives, but not in post-partum hemorrhages. I deem it a fair scientific conclusion that where a syncope is due to sudden loss of blood, or other acute impression in a system otherwise in physiological condition, there will be an automatic restoration, unless the shock itself is fatal, and in such case the scene is closed at once, with, of course, no margin for help."

In my puerpera I looked for syncope, and desired it for remedial purposes. While satisfied that I had removed the last possible vestige of the placenta, I was apprehensive that the violence of the manipulation its removal necessitated had abraded some part of the surface of the womb and left an oozing of blood or broken a vessel that the contraction of the uterus did not close, and it was my hope and belief that syncope would favor the

formation of a clot that the re-establishment of the circulation would not remove. The second swoon was not anticipated, but did not carry with it any apprehension of increasing evil, as it was not regarded as an evidence of continued hemorrhage because of the testimony of the hand still held in the inquiring position on the abdomen over the uterus.

The theory of the management of this case was this: In the administration of the ergot, the morphia, and the alcohol, it was believed that all the internal remedies had been given that could be of avail, and that quietude and rest were the best adjuncts to have them do their perfect work, and that an undisturbed condition of the uterus after contraction was of prime importance in stopping the flow of blood and maintaining a state forbidding its renewal.

The lesson, therefore, I wish to inculcate is that when it occurs we do not lose our heads, and through timidity do too little nor through termerity do too much, always remembering that to do too much of a good thing is often as fruitful of evil as doing something that is wrong *per se*.

And I am the more anxious to inculcate this lesson, because, to my mind, most of our text-books are not sufficiently precise in pointing out the exact nature of this complication of labor, are too indefinite in their therapeutic instructions, proposing quite a list of miscellaneous remedies, and not teaching as to their discriminating application. Perhaps I can not better illustrate this point than by quoting from one of the most recent of these text-books, *The Science and the Art of Midwifery*, by Prof. Lusk, a most excellent and reliable work in its general make-up, but, like most other good books, has some weak points, and this quotation discloses one of them, as I see it. In speaking of the treatment of post-partum hemorrhage, under the head of "Methods of Securing Uterine Contractions," Professor Lusk declares as follows:

It is my own practice, and one I urge upon others, to make provision in the simplest of cases against the possible occurrence of hemorrhage. In the beginning of the second stage I examine my Davidson syringe, to make sure that the valves are in good working order. I then direct a small table to be set by the bedside of my patient, and place upon it a bowl containing pieces of ice about the size of a hen's egg, brandy, sulphuric ether, neutral perchloride of iron, carbolic acid, ergot, a solution of morphia, a hypodermic syringe filled with a fluid extract of ergot, using preferably a watery solution. Within easy reach I likewise have placed a pitcher of hot water, another of cold water, an empty basin containing the Davidson syringe, and a bed-pan. All this requires but a few moments' time, and it is of no mean advantage to feel, in case hemorrhage follows the birth of the child, that all the appliances for prompt action are in order and close at hand.

If a doctor, relying upon the teachings of this *multiform* delusion, should undertake to square his actions by its demands, he would, unless favored by chance, soon weary of what would prove useless labor and futile precautions.

Think of a doctor lugging this farrago of appliances over the region of his practice in summer's sunshine and winter's gales, through mud and mire, into the city mansion, into the suburban hovel, into the rural house, for sixty years, watching and waiting for the one occasion when it may be a necessity for the safety of his charge. And, moreover, can any one estimate the amount of nervous perturbation that the two hundred and fourteen women [Churchill's statistics give the occurrence of this complication as once in 215 labors] who did not need this preparation would suffer from gazing on this harrowing parade through all the hours of their labor after the first stage, under the reasonable inference that as these things were openly arranged about her bed the accoucheur knew, in his inner consciousness, that they would be needed in her case.

POST-PARTUM HEMORRHAGE.

Dr. W. C. GRIGG recommends (*British Med. Jour.*) the administration of vinegar in doses of a wineglassful or two-thirds full, pure and without

water, every fifteen minutes, until two or three doses are taken. He regards it as almost a specific for this form of hemorrhage. It acts much more rapidly than does ergot.

IS IT NECESSARY TO PERMIT WOMEN TO SUFFER DURING THE FIRST STAGES OF LABOR?

Dr. WM. B. ATKINSON, of Philadelphia, writing to the *Obstetric Gazette*, Nov., 1884, criticises a paper published by Dr. L. W. Chisholm in the same journal, and says that not only is it unnecessary but he regards it as being highly reprehensible to allow any woman to suffer.

In the early years of my practice he employed morphia, but now, since 1869, he invariably gives chloral, and has never failed to see the happiest results. When called to a case and he finds the woman suffering with pain at intervals, little or no dilatation of the os uteri, he immediately administers a positive dose of chloral, from ten to twenty grains, with orders to repeat in an hour or two if required. He tells his patient that this will not delay the labor, but merely act as a partial anæsthetic to relieve her sufferings. Where the physician believes the labor to have really commenced, after giving such treatment, he should always return after the expiration of a few hours, as otherwise he may be regarded as neglectful should the labor under the influence of the chloral be terminated in his absence.

THE OCCIPITO-POSTERIOR POSITION IN VERTEX LABORS.

Dr. E. W. SAWYER, of Chicago (*Trans. Amer. Gyn. Soc.*, 1884) says that while it is almost universally taught that the occiput, when it presents posteriorly, rotates forward, but according to his observation, when the occiput engages in the excavation of the pelvis in the posterior position, it remains in that position and delivery is completed without change of position, if the process is not interfered with. Rotation forward occurs only rarely. How long shall the accoucheur wait for it to take place? He had been governed by the general rule not to allow the presentation to remain longer than two hours at any one point in the parturient canal, after the waters have drained away, and it is generally conceded that these cases require interference earlier than all others. The position accurately made out, one or two courses can be pursued: (1) drag the head through the canal with forceps; (2) attempt to rotate the head into the anterior position. The importance of changing the position is at once apparent on account of the danger to the perineum. Dr. Sawyer had failed to accomplish rotation of the head with the tips of the fingers, so attractively described in some text-books. But with the hand in the vagina, aided perhaps by external manipulation, the change in position can be accomplished easily.

Change in position affected, one of two courses may be adopted: (1) to allow labor to progress unaided; or (2) to deliver with forceps. Dr. Sawyer preferred the latter and had adopted it in his cases.

EXTRA-UTERINE PREGNANCY.—LAPAROTOMY AT THE TIME OF RUPTURE OF THE SAC.

Dr. R. B. MAURY, of Memphis, Tenn. (*Trans. Amer. Gyn. Soc.*, 1884) reports a case of tubal pregnancy and makes it the basis for comments which he concludes by saying:—In view of the fact that the patient's condition some hours after rupture of the sac is especially one of shock rather than of collapse from hemorrhage, even under perfect surgical methods we may never hope, as a rule, to obtain satisfactory results from *immediate* laparotomy, and at this time it would seem to be more in accordance with sound surgical practice to postpone all consideration of laparotomy until the period of shocks has passed away. Our efforts at the time of the rupture should be directed solely to rallying the patient and bringing about reaction. If these efforts be successful, then the question of abdominal section will arise for

consideration, and our course in the matter will perhaps be decided: (1) by the age of the fetus; (2) by the amount of extravasated material; and (3) by the character of the resulting inflammation.

COLD WATER IN LABOR.

By WILLIAM TRABERT, M.D., of Anrville, Pa.

From the *Med. and Surg. Reporter*, Nov. 15, 1884.—The only reliable oxy-toxic that I have found in my obstetrical practice is cold water. The attention of the profession was first called to this in 1871 by Dr. H. Garvin, of Louisville, Ky. He reported a number of cases where in the absence of ergot cold water was used with the best results; yet it appears the profession paid very little attention to it, for since then it is not mentioned in any of the writings or discussions on this subject that I have seen or heard.

Its efficacy in exciting contraction of the uterus in post-partum hemorrhage is well established, and its superiority over other agents in hastening labor with less danger is shown by the cases reported by Dr. Garvin, and also the following cases which I have selected from others. (Cases were reported.)

The following is the method to proceed: The water should be *cold*; it is not necessary always to have ice water, as Dr. Garvin suggests, but if convenient is preferable. A towel should be dipped in it and wrung until only sufficient water remains to wet the parts to which it is applied; this should be quickly placed upon the abdomen, so that as much of the cold will remain as possible; the cloth should be changed every five or ten minutes, or as soon as it becomes warm.

TREATMENT OF PUERPERAL ECLAMPSIA

By JAMES F. SULLIVAN, M.D., San Francisco.

From the *N. Y. Med. Jour.*, Nov. 15, 1884.—I venture to give the outline of a course of treatment which has proved so eminently satisfactory in my last six cases that I now no longer dread that frightful complication. In a practice of about thirty-six hundred cases of labor, I have met with thirty-three cases of eclampsia, exclusive of mild cases of a purely hysterical character. Of course, in cases complicated with uræmic poisoning from organic disease of the kidneys (with partial or almost total suppression of urine) no set plan of treatment can be laid down, but we know that the urine may be heavily charged with albumin toward the end of pregnancy without the existence of organic disease.

The first indications of treatment are to relieve the bowels by free injections and three drops of croton-oil on the tongue, together with other purgatives as required.

If, however, one or several convulsions have already occurred, I inject hypodermically, without delay, twenty drops of fluid extract of *veratrum viride* and half a grain of morphine.

If the pulse is full and tense, free bleeding from both arms is a most important measure.

These means having been resorted to, the next convulsion is delayed much longer than usual, and is far less severe. After an interval of fifteen minutes, if the pulse has not yielded in force and frequency, ten drops more of *veratrum viride* are to be injected, and so on every fifteen minutes *till the pulse does yield*, and then the convulsions have always ceased, in my experience, without any subsequent ill effects to mother or child.

The action of *veratrum viride* in these cases is simply a mechanical proposition—reducing the force of the circulation, thereby relieving the brain pressure—and if the case has been seen in the beginning, before effusion has taken place, recovery is almost certain. Nor do I consider forced delivery a wise or necessary measure unless the os is dilated or easily dilatable. If the os is rigid, or if, as frequently happens, no labor-pains have occurred, I believe that no effort should be made to hasten delivery. If the term of preg-

nancy has fully expired, the morphine and veratrum will relax the os, and labor will generally progress naturally without a return of the convulsions.

NOTE.—These doses of veratrum viride may appear large, but violent diseases require heroic treatment. The last edition of the "United States Dispensatory" speaks of veratrum viride as "a prompt, thoroughly efficient, and at the same time very safe remedy—very safe, since it is almost incapable of producing death in the robust adult unless used with great recklessness and in repeated doses."

PUERPERAL EPILEPSY.

The older writers, says M. Ch. Féré, believed eclampsia, whether infantile or puerperal, to be a neurosis analogous to epilepsy or hysteria. But since it has been discovered that in scarlatina and pregnancy there is often albuminuria, it has been the custom to explain all cases of eclampsia in these conditions by the action of the poisoned blood upon the nerve-centres. M. Féré has brought forward in the *Archives de Neurologie* of July, 1884, some observations and reasons in support of the view that puerperal eclampsia, for example, is the expression of a neuropathic state in which the conditions in pregnancy are only the exciting cause. Puerperal eclampsia, he thinks, may be regarded as an acute epilepsy, or an "eclamptic epilepsy."

If the antecedents be carefully inquired into, in cases of puerperal eclampsia, there will generally be found, says Féré, a hereditary or acquired neuropathic history. A number of cases are cited also in which the puerperal eclampsia, so-called, was only the beginning of a chronic idiopathic epilepsy.

The influence of pregnancy upon the course of epilepsy has been investigated by several observers with somewhat contradictory results. On the whole, however, it appears that during pregnancy the number of epileptic attacks is diminished. It is also well known that epileptics, and "neuropathics" generally, often pass through pregnancy and even scarlatina without any convulsion. In explanation of these facts, however, Féré puts forward the view that in those disposed to epileptic attacks there exist various epileptogenic zones, e.g., gastric, uterine, peripheral, etc. In some cases the irritation must be gastric or peripheric, in other cases uterine, in order to excite the paroxysm and call forth the disease. It is known that in puerperal eclampsia, albuminuria does not always exist. Thus Charpentier alone cites one hundred and forty-one cases of this kind ("Traité pratique des accouchements," 1883). And Nothnagel admits that puerperal eclampsia is sometimes the result of an irritation of the uterine or sacral nerves acting upon an unstable nervous system.

Finally, many persons suffer from albuminuria and some degree of uræmia without having convulsions.

M. Féré has made out a case, therefore, which deserves some attention. Physicians should not be too ready to ascribe puerperal eclampsia entirely to blood-poisoning. They ought to be especially watchful when patients who are pregnant have a well-marked neuropathic history. At the same time, practical experience shows that the large majority of nervous and hysterical women go through pregnancy safely, showing that the pregnant uterus does not often become an epileptogenic zone.—*Ed. Med. Record*, Sept. 27, 1884.

PHLEGMASIA ALBA DOLENS.

By JOHN G. CREIL, M.D., Visiting Phys. to Louisville City Hospital.

Dr Cecil in the *Louisville Medical News*, October 25, 1884., relates the history of a case and then gives a resumé of the theories concerning the pathology of this disease:

1. "The disease was ascribed to a metastasis of lochia by many pathologists, and by others to a metastasis of milk.

2. "The discovery of the lymphatics in the last century led to the first attempts of a truly scientific kind to solve the mystery of the nature of this affection, the suggestion being that it rose from their injury and obstruction.

3. "The next attempt to account for this disease was based on the important discovery of the thrombosis of the veins of the affected limb. This was assumed to be an invariable or essential condition of the disease, which was accordingly now regarded as phlebitic. But the recurrence of the lesions regarded as essential, the phlebitis and thrombosis, without the development of the characteristic appearances of the affected limb, and, on the other hand, the occurrence of the characteristic appearances without the simultaneous presence of the phlebitis and thrombosis, demonstrated the insufficiency of the phlebitic theory.

4. "The next theory alleged, but merely alleged, that a morbid condition of the blood, of undefined nature, is, along with phlebitis and thrombosis, necessary for the production of the disease. This theory is nearly as deficient in basis as the lochia or milk theory. The confirmatory experiments on the lower animals, by injecting lactic acid into the circulation, are in the highest degree insufficient, and it leaves unexplained important points, such as the seat of the affection.

5. "The last theory is that the disease, as it is seen in lying-in women, is essentially a parametritis, that it is an affection of the cellular tissue, commencing in the close neighborhood of the womb but extending to remote parts, and it may be prevailing in them, while the original inflammatory affection of the womb and its immediate neighborhood has diminished or even disappeared. Parametric inflammation extends in a similar manner occasionally as far as the cellular tissue around the kidney. When it extends to a limb it is supposed to be the cause of phlegmasia dolens, and to have the phlebitis and thrombosis as concomitants or consequences of it.

6. "The most recent observations with a view to the elucidation of the pathology of phlegmasia are concerned with the thrombosis of uterine sinuses, which goes on in the latter part of natural pregnancy as well as more extensively after delivery.

In the meantime, then, Dr. Duncan concludes that no theory of the disease can be regarded as established, or as having been shown sufficient.

From such authorities as I have consulted and from my very limited observation of this disease, the conclusion arrived at respecting the pathology is, that while we can not find any one theory to be entirely acceptable, a theory comprising parts of several already advocated would more nearly meet all the requirements suggested by the various phenomena. It would embrace three factors, viz : (1) The condition of blood known as hyperinosis. (2) Cellulitis or extended parametritis, if you choose to call it such. (3) Phlebitis and thrombosis resulting from the first two.

MANAGEMENT OF NEW-BORN INFANTS.

The *Medical World* says: In the management of the new-born infant we are gradually approaching nature's methods. In the maternity department of the Woman's Hospital in Philadelphia the management of new-born babes has been as follows. As soon as the head is born the eyes are washed with an antiseptic solution. When the body is born the child is left in the bed to await the expulsion of the placenta. No effort is made to remove the placenta under half or three-quarters of an hour; before this time it is generally expelled by nature. When the placenta is expelled it is placed in a pan, and the child is wrapped up and laid away with the placenta still attached. The child is now left and the attention is given to the mother. After the mother is properly cared for, the child receives attention. By this time the pulsations in the cord have long since ceased. The cord is now cut and the blood is "stripped" out of the stump, but neither end is ligated. The stump is not dressed, nor is any band put around the child's body. The child is neither washed nor dressed, only a diaper and a simple "slip" or gown is put on, and then it is warmly wrapped up and put in a little bed to itself. After twenty-four hours it is taken to the baby's bath-room (which is properly heated) and there it is washed and dressed. Dr. Tyng, the physician in charge, tells us that since this plan has been adopted the babies get along much better. We were in the wards in this department about an hour, and during

this time we did not hear a single cry from the babies. They all seemed contented and happy and were doing well. We are convinced that washing the child immediately after birth, and keeping it half-naked for a long time during the process of careful dressing, is not good practice.—*Weekly Medical Review*, Oct. 18, 1884.

DISEASES OF WOMEN.

ANTEFLEXION OF THE UTERUS; ITS ASSOCIATED PATHOLOGICAL CONDITIONS, THEIR PREVENTION AND TREATMENT.

By W. GILL WYLIE, M.D., Prof. of Gynecology in the N. Y. Polyclinic.

In a paper published in the *Amer. Jour. of Obs.*, December, 1884, Dr. Wylie says that antelexion does not constitute the disease, but is the result of either imperfect development or of disease. The causes of these pathological conditions are:—(1), congenital influences; (2), general and special causes tending to prevent perfect development, and thereby inducing premature atrophy and degeneration; (3), diseases which soften the walls, or those which enlarge the fundus, or lengthen the cervix, or relax or overstretch the suspensory ligaments, etc., etc.

Except in rare instances, I do not think that the mechanical effect of the flexion causes the symptoms, dysmenorrhea, etc.; but they are due to the degenerate, hyperesthetic, and more or less contracted or stenosed condition of the tissues, chiefly at or about the os internum. In other words, the mere fact that the uterus is antelexed has, as a rule, little to do with the disease or symptoms.

Prevention.—As long as delicate children are born and enabled to reach maturity, women will suffer with small, imperfectly formed, and degenerated genital organs. To prevent antelexion or imperfect development and degeneration of the generative organs, children with good constitutions should be kept in good health until fully matured, and delicate and stunted children should be so treated as to increase their physical strength and have a surplus of force for the full development of the generative organs.

Local treatment, as a preventive in cases due to imperfect development, is hardly practicable, for usually flexion already exists when the first symptom (dysmenorrhea) occurs. In cases of flexion acquired after puberty, the prevention is indicated by the etiology. Local treatment, if given at all, should aim at stimulating healthy development.

Treatment.—These cases usually seek medical advice on account of dysmenorrhea or of irregular menstruation. Yet not infrequently a woman will bear with the pain for years, and finally consult a physician for sterility.

Sometimes menstruation is painful from the first, but many cases are preceded by irregular and usually scanty menstruation. I rarely make a local examination in unmarried women for either dysmenorrhea or amenorrhea, without first trying the effect of general treatment. After a fair trial of this treatment, I insist upon a local examination, for undoubtedly the longer local treatment is delayed after improving the general health, the more difficult will it be to effect a complete cure, and the more likely is it that the case will become complicated by ovarian or other peri-uterine disease.

By far the most common type among the well-to-do class is that where imperfect development is plainly indicated. Often the external genitals are small and undeveloped, and the vagina may be found small and short. In Sims' position, with his speculum in place, a properly curved sound can be readily passed to the os internum; at this point there may be some resistance, and as the instrument passes, the patient usually complains of sharp pain. The fundus may be found sensitive to the touch of the sound, and not infrequently its withdrawal is followed by blood, although it may have been passed with the greatest care.

I usually begin the local treatment of such a case by inserting a small piece of borated cotton, saturated with pure glycerin, against the anterior lip of the cervix, crowding it somewhat backward in the vagina. The cotton rolls into a ball which tends to displace the cervix backward and lift the fundus. A string is left attached to the cotton, by means of which the patient can remove it, which she is instructed to do in twenty-four hours. The object of this tampon is to soften the tissues, which it does by causing a profuse watery secretion. It seems to improve the local circulation, and invariably tends to relieve the hyperesthesia of the vagina and pelvic tissues. The pledgets are put in two or three times a week, until the patient bears the vaginal examination without pain. The patient is also instructed to use hot-water vaginal douches during the intervening days.

As a rule, an ordinary case will be much changed in two or three weeks by this preparatory treatment. Occasionally a case of long standing, in which the nervous system has been seriously affected, will require six or eight weeks of such treatment before the next step can be safely undertaken.

Dilatation.—The patient being in Sims' position, the vagina is sponged out with a solution of 1 to 3000 of bichloride or 1 to 20 of carbolic acid. All instruments are kept in a solution of carbolic acid. Then a Sims' uterine dilator is inserted into the uterine canal, and the blades should be forced apart about two lines. The amount of force required for this amount of dilatation will vary greatly, but usually in old cases it is considerable, especially those of the imperfectly developed type. This procedure causes more or less, and in some cases intense pain, similar to that due to menstruation. The dilator is withdrawn and a cervical protector introduced to the os internum. An applicator previously wrapped with cotton is dipped into pure carbolic acid; the free acid having been rubbed off, it is passed through the tube of the protector directly to the os internum, and thoroughly applied by turning it about and slightly withdrawing the tube and applicator. About twenty grains of iodoform are blown against the cervix as the speculum is withdrawn. In some cases the pain is immediately relieved, rarely the patient complains of cramping pain for several hours. When properly performed as directed above, and if antiseptic precautions were used, I have never seen any harm from this treatment. The first dilatation can be made at the patient's home, and she is kept in bed for the rest of the day or until all disturbance has ceased. As a rule, it is best to allow at least a week to pass before the dilatation is repeated. The glycerin pledgets can be inserted as usual. Sometimes I repeat the dilatation three times between the menses, but usually twice is sufficient, and if the dilatation can be carried to the point where the blades are four lines apart at the os externum, the dysmenorrhea is relieved in the majority of cases where there is no active endometritis or endocervicitis, and in favorable cases it is the beginning of a permanent cure.

After speaking of Sims' operation, the use of tents, dilation by means of sounds, and the use of pessaries, Dr. Wylie gives the following conclusions:

(1) There is undoubtedly a certain number of cases in which a marked degree of anterior curvature gives no painful symptoms. (2) Anterior displacements are the result, rather than the cause of pathological changes in the uterus. They may add to and sometimes intensify disease, but are rarely, if ever, the primary cause. (3) Dysmenorrhea with ante flexion is rarely, if ever, chiefly and directly due to the flexion, but the latter in some cases may aggravate the pathological conditions which are the real cause of the pain. (4) The attempt to correct anterior displacements by the use of pessaries is rarely, if ever, sufficient to effect a cure, unless the cervix is dilated at the same time, or other pathological conditions are treated. The use of mechanical supports may give some relief, but they are merely palliative, and as used by many they frequently do harm. (5) The true morbid condition of the uterus in most cases of ante flexion is one of imperfect development, while the uterine canal is more or less stenosed by the degenerate and contracted state of the uterine tissues, and the mucous lining is degenerate and atrophied, often hyperesthetic, especially in that part of the organ where the circular fibres are most powerful and contracted, at the os internum. (6) If

the above is true, the treatment obviously would be to stimulate development by improving the general health and by the local use of electricity, to relieve the stenosis by dilatation or division and divulsion, to perfect the drainage, and bring about a healthy condition of the mucous lining.

ADDRESS IN GYNÆCOLOGY.

By T. GAILLARD THOMAS, M.D., Clin. Prof. of Diseases of Women, Coll. Phys. and Surgs., N. Y.

From the *N. Y. Med. Jour.*, Nov. 22, 1884:—The pathological conditions which most frequently result in that chain of symptoms which mark the pelvic diseases of women may, I think, be fairly tabulated in the following manner: (1) Injuries received during parturition. (2) Natural or acquired imperfections of the uterus and ovaries. (3) Displacements of the uterus. (4) Benign neoplasms in the uterus, ovaries, or annexa. (5) Tubal and ovarian diseases. (6) Uterine catarrh. (7) Hyperplastic development of the endometrium. (8) Neuroses, such as vaginismus. (9) Inflammatory disease of the pelvic areolar tissue and peritoneum. (10) Malignant disease of the uterus or ovaries.

It may safely be said that in almost all of these a resort to surgical interference is often an essential to cure, while in most of them it is absolutely so.

No surgical procedure has more profoundly excited the interest of gynecologists during the last decade, and I may add that none has done more good, than the operation of trachelorrhaphy. That its future sphere of usefulness is a large and brilliant one no one who has studied its results without prejudice at the bedside can for a moment doubt. May its originator long live to enjoy the evidence of the good which his labors have accomplished, and will continue for all time to effect.

Extirpation of the ovaries is performed for three purposes:—(1) for effecting a premature menopause; (2) for checking the growth of large fibroids; and (3) for removal of ovaries and Fallopian tubes for hydro- and pyo-salpinx, and resulting pelvic inflammation—has now become a well-recognized and accepted resource in gynecology. The originators of these operations, for they really differ from each other in many essential respects, are Battey, Hegar, and Tait. So great are the benefits resulting from these procedures in the various conditions for which they are practiced that nothing can now stop their advance.

Nevertheless, as I look to-day into the future of any operation for removal of the ovaries, I see it the instrument of great abuse; I see it performed in numerous cases of mental disorder aggravated by the menstrual molimen in which it will fail of result; in many of uterine disease which could without its aid have been cured by care, patience, and skill; and in a great many cases in which diagnosis is obscure, and in which a resort to it is, to say the least, empirical.

NEW REMEDIES.

In connection with my subject, I would mention four drugs which have of late been introduced into practice, all of which appear to me to possess sufficient value to warrant their special mention here. These are the permanganate of potash, and the fluid extracts of the stigmata and ustilago maidis, of the *Viscum album*, of the *Viburnum opulus* and *Viburnum prunifolium*.

Permanganate of potash, introduced by Sydney Ringer, of London, as an excitant of the menstrual flow, is, I think, the best emmenagogue which has yet been discovered. The stigmata and ustilago maidis, or ergot of corn, are, like the fluid extract of *Viscum album*, or mistletoe, excellent oxytocic agents, and replace the ordinary *Secale cornutum* very well, not only during labor, but in causing uterine contraction for the relief of metrorrhagia, uterine fibroids, subinvolution, etc.

The medicinal virtues of the *Viburnum opulus* and *Viburnum prunifolium* appear to consist in an influence of sedative character upon the utero-ovarian nerves. These drugs have been greatly lauded as preventives of threatened abortion, and remedies for the pains which attend disordered menstruation. Although in my experience they have fallen far short of the excellence which has been claimed for them, I feel sure that they possess a considerable degree of virtue.

RAPID DILATATION OF THE UTERINE CANAL.

By WM. GOODELL, M.D., Prof. Gyn. Univ., Penn.

In a communication made to the *Obs. Soc. of Philadelphia*, DR. GOODELL says:—Rapid dilatation has proved, in my hands, so safe and so efficient an operation that I wish to urge its claims before this Society.

The instruments which I would recommend are two Ellinger dilators of different sizes. These are the best on account of the parallel action of their blades. The smaller of these dilators has slender blades and it pilots the way for the other, which is more powerful and with blades that do not feather. I have had the beaks of these dilators changed from an obtuse angle to a slight curve, so that it can be reversed within the womb. The lighter instrument needs only a ratchet in the handles, but the stronger one should have a screw with which to bring the handles together. Lest the beak should hit the fundus uteri and seriously injure it when the instrument is opened, the blades are made no longer than two inches, and are armed with a shoulder which prevents further penetration. The larger instrument opens to an outside width of one and a half inches, and it has a graduated arc in the handles by which the divergence of the blades can be read off.

In a case of dysmenorrhœa or of sterility from flexion or from stenosis, my mode of performing the operation of rapid dilatation is as follows: The patient is thoroughly anesthetized, and a suppository containing one grain of the aqueous extract of opium is slipped into the rectum. She is then placed on her back and drawn to the edge of the bed, the knee being supported by her nurse. The light must be good so that the operator may clearly see what he is about. By the aid of a strong tenaculum, applied through my bivalve speculum, the cervix is steadied and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that when the instrument is closed it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes' time, a cervical canal is tunneled out which before could not admit the finest probe. Should the os externum be a mere pin-hole or be too small to admit the beak of the dilator, it is enlarged by the closed blades of a straight pair of scissors which are introduced with a boring motion. As soon as the cavity of the womb is gained the handles are brought together. The small dilator being now withdrawn the larger one is introduced and the handles are then slowly screwed together. If the flexion be very marked, this instrument after being withdrawn should be re-introduced with its curve reversed to that of the flexion and the final dilatation then made. But in doing this the operator must take good care not to rotate the womb on its axis and not to mistake the twist for a reversal of flexion. The ether is now withheld and the dilator kept in situ until the patient begins to flinch, when the instrument is closed and removed. A few drops of blood trickle out of the os. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often this flux is precipitated or renewed if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods.

When compared with the cutting operation this one looks like rough usage, yet the woman rarely needs more than two or three suppositories, and complains merely of soreness for one or two days. To forestall any tendency to metritis she is kept in bed until all tenderness has disappeared. Pain is met by rectal suppositories of opium and by large poultices laid over the abdomen. I have seen slight pelvic disturbance arise from this operation, but it has always been readily controlled and has not given alarm.

In the great majority of cases I dilate the canal, not to the fullest capacity of the instrument, but to one and a quarter inches. Sometimes in an infantile cervix, which does not readily yield and might give way, the handles are not screwed down more than three-quarters of an inch or an inch. Tearing of the cervix has happened in two of my cases.

For slight dilatations the more delicate instrument is quite strong enough, and an anæsthetic is not needed. Sometimes in a very sharply anteflexed womb the dilator cannot be made to pass the os internum. This difficulty is overcome by first passing in a surgeon's probe, and then, along it as a guide, the dilator.

After a forcible dilatation, under ether, the cervical canal rarely returns to its previously angular or contracted condition.

But it is not to cases of dysmenorrhœa that I limit the operation of rapid dilatation. I use it to stretch open the canal for the admission of the curette and of sponge-tents, or for the purpose of making applications to the uterine cavity. In cases needing the irrigation of the uterine cavity, I first dilate the canal with this instrument and introduce the nozzle of the syringe between the separated blades. This gives a free avenue for the escape of the liquid, and robs of its dangers this form of intra-uterine medication. I also resort to the dilator in order to explore the womb with the finger. For instance, in any given case of menorrhagia, in which a polypus or some other uterine growth is suspected, instead of using tents I put the woman under an anæsthetic, and after the rapid dilatation of the cervical canal to the utmost capacity of the instrument, viz.: one and a half inches, am enabled to pass my finger up to the fundus.

Including all the cases of dilatation performed under ether, I must have had over three hundred. I have limited myself to these cases because the use of an anæsthetic implies full dilatation, one in which serious injury, if ever, would most likely be sustained. Yet there has not been a death or a case even of severe inflammation in my practice, and the results have been most satisfactory, far more so than when the cutting operation was performed by me.

Dr. Harris inquired concerning the danger of lighting up a former ovaritis by dilatation. The operation is successful but that is its danger.

Dr. Goodell has not hesitated to operate but always uses opium first, and by the time the operation is over the patient is under its influence. He keeps them in bed and under the opium until all tenderness has passed entirely away.

PELVIC CELLULITIS A MISNOMER.

By CHARLES W. ADAMS, M.D., Prof. of Hygiene and Diseases of Children in the Univ. of Kansas City.

From the *Medical Index*, Nov., 1884:—An acknowledged authority in gynecology writes, that a great advance in the treatment of the diseases of woman will be made whenever practitioners become so impressed with the significance of cellulitis as to apprehend its existence in every case."

Much of this uncertainty is due to the fact that cellulitis is essentially a malady of the living, very little light, if any, being thrown upon this subject by post-mortems. Hence, pathologically, the disease has been classed according to the ultimate changes observed at the end of the case, and not according to its correct development.

In view of these facts, I believe that the present nomenclature is incorrect. On the one hand, when it is designated as a pelvic inflammation, it is comprehensive enough, but lacks that definite signification which a name should have; on the other hand, when the term pelvic cellulitis is used, it is a misnomer, because it is pathologically incorrect and misleading.

The conclusions, which might be drawn from the prominent views of pelvic cellulitis could be summed up in the following propositions: (1.) In the female pelvis certain elastic tissues, viz: cellular, are placed, to act as a protection or padding against injury of certain important organs. (2.) This cellular tissue or padding becomes the seat of a disease, which is by far the most important one with which woman is afflicted, or the protector causes more trouble than the protected. (3.) By some the cause is considered always to be septic and comes from without, by others it is septic or idiopathic. (4.) The only attempt made to show the relation of cause to effect, is when it is said that the cellular tissue is in the immediate neighborhood of

the place where the cause of the inflammation arises, and that it is the result of contiguity of tissue.

These facts, however, lead me to an entirely different conclusion. Accepting the presence of the cellular tissue, admitting that in the midst of this tissue we find the products of inflammation; how do we then account for it? According to proposition 3d the weight of authority is in favor of the septic nature of the inflammation. Proposition 4th attempts to show that this septic infection is transmitted from one place to another by mere contiguity of tissue. This is asking a great deal to be taken for granted. To my mind the solution of the problem lies in supplying some carrier for this septic matter. Mere contiguity of tissue will not answer. If we say the veins, this would be a phlebitis, which would make a distinct disease whose pathology is well known. What is this determining agent or carrier? We answer, without doubt the lymphatics.

On the theory of the lymphatics as the carriers of a septic matter, we can account for all the causes which are mentioned as bringing on pelvic inflammation or cellulitis. If this is so, it is not pelvic cellulitis but Pelvic Lymphangitis. If you object to the name because it amounts to the same thing, why throw aside its ancient name of abscess of the uterus or pelvic abscess, for as pelvic cellulitis is no more pelvic abscess than pleuritis is empyæma, so pelvic lymphangitis is no more pelvic cellulitis than pleuritis is empyæma.

In recapitulation I believe that the following propositions would embody my views:

I. Pelvic cellulitis, according to the accepted opinion of the disease, cannot be accounted for on anatomical or pathological grounds.

II. An inflammation in or of the cellular tissue in the pelvis, benign or septic, originates in the Capillary Lymphatics wounded in some lesion of the utero-vaginal mucous membrane.

III. The Lymphatics are the carriers of the matter benign or septic, which sets up an inflammation of the glands or lymphatic plexuses in tissues or organs lying in the pelvis, at a distance from the point of infection.

IV. Inflammation of cellular tissue is simply secondary to inflammation of lymphatic glands, vessels or plexuses, which act as internal buboes.

V. Such a Lymphangitis will undergo resolution, suppuration or remain in a chronic inflamed state for an indefinite time.

VI. When thus as the result of an inflammation pus or effused matter occurs, it will burrow through the cellular tissue, following the lines of least resistance the same as collections of pus in other parts of the body.

VII. The lymphatics of the uterus and its annexæ and the peritoneum, are so intimately united by physical contact and physiological action, that Lymphangitis will of necessity be accompanied by peritonitis.

VIII. The seat of inflammation depends not on the presence of cellular tissue or vascular richness, but on the lymphatic connection of the part affected with the point of infection.

IX. Under the term pelvic cellulitis, or inflammation, we recognize but one condition, viz: Lymphangitis or inflammation of lymphatic vessels accompanied by plastic infiltration of cellular tissue.

X. In the puerperal state we have a Lymphangitis, Phlebitis and Peritonitis, resulting from the absorption of septic matter in a high grade of activity, acting on tissues undergoing a retrograde metamorphosis.

XI. Only by a recognition of Lymphangitis in place of Cellulitis can we account for the relation of cause to effect, and fulfill the indication of the causes of the disease.

XII. The recognition of this view of the disease urges every practitioner to take the utmost antiseptic precaution in treating every lesion of the utero-vaginal mucous membrane.

CALCULUS IN THE FEMALE BLADDER.

By J. G. PINKHAM, M.D., Boston, Mass.

Dr. Pinkham, in the *Boston Med. and Surg. Jour.*, Oct. 30, 1884, gives the history of a case in which he removed, by Bigelow's operation, a stone which

weighed a little more than half an ounce, and then says:—The operation of litholapaxy, or lithotrity at one sitting, introduced by Dr. Bigelow, seems to be especially appropriate for the removal of calculi from the female bladder, inasmuch as the urethra is short and easily dilated, and no complicated and expensive evacuating apparatus is required, as shown in this case. Professor Heath (London) used a vulcanite-urethral speculum and a Higginson's syringe to wash out the detritus. He, however, had dilated the urethra to the extent of producing rupture, and had introduced his forefinger. With the method adopted in my case there is no need for any except a very moderate dilatation. Heath claims that no harm resulted from extreme dilatation in his cases. I have myself dilated the urethra so as to introduce the finger for the purpose of removing small calculi and calculeous encrustations of the vesical mucosa. In these cases there was a moderate amount of rupture of the meatus superiorly, but the patients recovered promptly. Yet instances are not unknown in which this procedure has been followed by prolonged incontinence. Sometimes, indeed, the vesical sphincter never regains its control over the contents of the bladder. Such a result would be an evil second only to the retention of the calculus. Hence the inquiry is pertinent why the patient should ever be subjected to such a risk.

Vaginal cystotomy will probably always have to be resorted to in certain cases, such as those of foreign bodies which cannot be removed *per urethram*, encysted calculi, etc., but for all ordinary cases of stone in the female bladder it is safe to say that litholapaxy will be the operation of the future.

HYSTERO-TRACHELORRAPHY.

Dr. CHARLES MEIGS WILSON, in a communication to the *Path. Soc.*, of Philadelphia, gives a summary of the history of 142 cases concerning the etiology of laceration of the cervix, he says:—Simpson, in England, and Gardner, in this country, first called attention to this lesion. Emmet, as he himself says in his book, accidentally discovered the lesion in 1862, and devised the operation for its relief. To him belongs the credit of revolutionizing gynecic surgery. Parturition is the chief cause of the lesion. The pressure of the child's head alone, especially if it be a large one, upon the os, may even in a normal labor be sufficient to lacerate it. If the os be rigid, or, as frequently happens, be both rigid and attenuated, the danger is of course increased. Meddlesome midwifery is a prime cause—by which term I mean the practice of trying to force back from the presenting portion of the child the margin of the os, without waiting for it to dilate properly; the desire to expedite the labor in every possible way; the premature rupture of the membranes—the physician forgetting, that nature's dilator, the “bag of waters,” is the best of all. Experience teaches that all all labors in which the membranes have been ruptured prematurely, either accidentally or purposely, are apt to be complicated by some laceration of the obstetric canal, especially of the cervix.

Unnecessary and unscientific exploration of the forceps, and traction made with them without a proper knowledge of the pelvic canal and outlet, is another factor. That the forceps are responsible for many cases of laceration there can be no doubt. When applied high up or within the uterus, they are exceedingly apt to produce tearing of the cervix.

The breech presentation is another factor, because of the necessity of rapidly delivering the head. The cervix may also be torn by the shoulders after the head has passed safely through. The injurious practice of giving large doses of ergot prior to the expulsion of the foetus is another cause. So too are abortions.

The predisposing causes include the various forms of induration, whether caused by hyperplastic deposit or malignant disease; all affections of the cervix producing tissue softening, such as epithelioma, or any condition interfering with the natural elasticity of the part, as the cicatrices of previous surgical procedures, or as happened in two of the cases the writer saw, of cauterizations, and any syphilitic or strumous taint giving the uterus lack of tone. T. E. Wilson lays great stress on the “muscular depravity,” the re-

sult of a constitutional syphilitic taint, and the consequent emaciated condition of the os. This muscular degeneration may be the result of many pathological conditions—for example, anæmia, malnutrition, phthisis, and the like.

Again, when the uterus is in a state of constant activity, owing to frequent gestation, it is liable to lose tone, and thus pave the way for the exciting cause to light up the trouble. Women are more apt to meet with this accident at the time of their first delivery than subsequently. It occurs, also, more frequently in rapid labors.

COCYGDYNIA.

By WILLIAM GOODELL, M.D., Prof. of Gyn., Univ. of Penn.

From the *Coll. and Clin. Record*, Sept., 1884:—What are the symptoms of coccygodynia? They are pain in defecation, and pain in sitting down or rising up. In sitting down, women suffering from this disease will take hold of the back of the chair and sit down on one buttock, so as to avoid placing any weight on the coccyx. In rising up they do not rise directly, for in so doing a strain is thrown on the coccyx; but they catch the back of the chair with their hands, and lift themselves. I know of but one other disease that will produce this symptom, and that is rare. It is the formation of a little abscess in the coccygeal region, in which, after opening, will be found a small coil of hair. This, sometimes, gives a great deal of annoyance. There is another disease in which this symptom is simulated to a certain extent—that is, fissure of the anus.

Another of the symptoms I have mentioned *i. e.*, pain in defecation—may also be caused by fissure of the anus, or by an inflamed pile; but the patient will be likely to recognize a pile. In the majority of these cases it will be found that the nervous system is below par, or that there is nerve prostration. In other cases the patients are healthy.

The cause of the real disease is some injury to the coccyx. This is a movable bone, and increases the antero-posterior diameter of the inferior strait from four inches to four and a half inches. This bone may be ankylosed, or its ligaments shortened; and this, by the way, is one objection to a woman in advanced life giving birth to a child. Under these circumstances the coccyx may not be able to bear the strain put upon it, and there may be over-stretching of the ligaments, or, in the case of ankylosis, a positive fracture of the bone. I have heard the coccyx snap more than once. Another cause of injury to the coccyx is the bucking of a horse, in which the horse brings its four feet together and gives a jump, throwing its rider into the air, and in coming down the coccyx is often injured. I have seen several instances of this. I have seen a very bad example of this trouble in a lady otherwise in excellent health, produced by her chair being withdrawn as she was about sitting down, causing her to fall to the floor, striking the coccyx. Pure coccygodynia may be the result of dislocation, fracture, or of neuralgia.

The treatment of injuries to the coccyx occurring during labor should consist in keeping the patient at rest, the use of sufficient opium to relieve the pain—and usually this is not great, there being only a sense of soreness—and keeping the bowels bound for a week.

When you get hold of a case of real Simon-pure coccygodynia, the treatment should, in the first place, be directed to lulling the pain in the nerves, for sometimes the nerves have been injured. An excellent remedy is five grains of iodoform by suppository at night. It is important to avoid the use of morphia as much as possible. When it can be done, it is better to give the remedy by the bowel. In fracture, it is better to give it by the mouth, and keep the patient as quiet as possible, and sometimes you will be rewarded with a cure. The pain may sometimes be lulled by the use of injections of minute doses of carbolic acid around the coccyx.

If the worst comes, and it is impossible to relieve the pain by the measures mentioned, it will be necessary to extirpate the coccyx.

PESSARIES IN THE TREATMENT OF UTERINE DISPLACEMENTS.

By Dr. R. L. Wood, Kansas City, Mo.

From the *Medical Index*, Nov., 1884:—What makes a uterine displacement pathological? It is quite true that in the healthy woman the uterus is very commonly displaced; it is equally true that women who present themselves to the gynecologist for treatment have the uterus very commonly displaced, and by curing the displacement the patient is restored to health. To answer the question at the beginning of this paper, we want the hospital case and post-mortem book, with careful microscopical examination, and also the case-book of the family physician. It is only by combining these three that this question can be satisfactorily answered.

To treat all displacements with a pessary is empirical, to deny the use of pessaries altogether is to condemn a large proportion of women patients to lifelong misery.

When a patient comes to me with pain about the left groin, which has never left her for fifteen years, if I find the uterus displaced and support it with a pessary, and her pain instantly ceases, I am justified in considering her displacement pathological. If by restoring the displacement the pain is not removed—provided I am satisfied as to the mechanical completeness of the restoration—then the displacement is not pathological.

I do not mean that every woman with pain in her groin is to be suspected of displacement; yet, by excluding other ailments in cross-examination, it proves very commonly to be from stretching of the round ligament as the result of displacement. Drugs are useless in such a condition, and mechanical appliances alone of service; bandages and belts are of temporary use; pessaries alone give permanent relief, and frequently end in cure.

TREATMENT OF PUDDENDAL HEMATOCELE.

From the *Canadian Practitioner*, Oct., 1884:—As regards treatment, there seems to be some diversity of opinion among authors, yet a general rule of procedure can be deduced therefrom.

Of course, it is a well-settled principle of surgery *never* to incise a recently formed effusion of blood, lest uncontrollable and fatal hemorrhage ensue. Hence, when seen early, or when effusion of blood is still going on, our efforts should be directed to the arrest of the hemorrhage, by the application of cold and pressure. Small effusions may become absorbed or encysted, and all the treatment required in these cases is to keep the patient quiet and to apply evaporating lotions with pressure. A good method of applying internal pressure in these cases is that suggested by Prof. Lusk. It consists of this: A rubber bag or a large Barnes' dilator filled with iced water should be adjusted in the vagina, and then, by the double action of cold and pressure, the hemorrhage may be checked. Opiates may be given to relieve pain.

In those cases in which the effusion is so large that absorption is improbable, it will be necessary at some time in the history of the case to incise the tumour. If we wait till suppuration shall have set in, we will run the risk of sepsis. Hence it seems to me that, after waiting a reasonable time after the occurrence of the extravasation, and when we think that the hemorrhage has ceased, it is preferable to incise the tumour, clear out the clots, wash out the resulting cavity with an antiseptic solution, and make use of iodoform with firm pressure.

If the bleeding should continue, however, after thus incising the swelling after a reasonable period of time shall have elapsed, then the bleeding vessels should be secured by ligature. It has even been recommended to apply the thermo-cautery to the bleeding cavity, after the swelling has been opened in order to arrest the flow of blood.

If the effusion occur during labor, and it be sufficiently large to impede the birth of the child, it is proper to make a free incision at the most dependent part, and the advancing portion of the child will act as a tampon to

control the hemorrhage. If it occur before the presenting part has descended, pressure must be applied. If it form after the birth of the child, it should be treated as one of an extraneous traumatic origin. At whatever period the incision may be practised, it is not advisable to remove all the clots at first; leave those which seem to adhere, and they will gradually come away with the subsequent dressings. The incision should be free and not merely a puncture, and after the clots have been extracted the natural contractility of the parts will cause the wound soon to close up. As regards the part of the tumour where we are to operate, it should always be opened at its most dependent part, even if there should be indications of pointing elsewhere. It is usually preferable to cut on the inner or vaginal side of the labium majus.

If, when the effusion is small, no sign of absorption occur after a reasonable period of time, then it will be proper to employ hot poultices to encourage suppuration, and as soon as pointing takes place, the pus should be liberated. The discharge will sometimes emit a distinctly stercoral odor which might possibly lead to the erroneous opinion that the hematocele is complicated with a recto-vaginal fistula.

Since the great mortality in former times was most probably due to septic infection from absorption of the purulent and decomposing sanguineous constituents of these effusions, it is very necessary and important that the antiseptic method should be rigidly carried out in the frequent irrigations of the cavity with disinfectant lotions, preferably of the bichloride of mercury 1 part to 2,000, or of phenic acid of a two per cent. strength. Then all the indications for treatment will have been met, and a favorable result may be, in very nearly all cases, confidently expected.—*Fruitnight, in Amer. Jour. of Obs.*

INVERSION OF THE UTERUS.

Dr. JOHN C. REEVE, of Dayton, O., read a paper on the above subject, at the annual meeting of the *Amer. Gyn. Soc.*, held in September and October, 1884, and discussed the following moot points:

1. *Can inversion of the uterus occur entirely independently of pregnancy or polypus, or even in the nulliparous organ?*

The conditions necessary to inversion are sudden emptying of the organ after distention of its cavity and thinning of its walls by the gradual development within of some physiological or pathological product. Pregnancy or the growth of a polypus furnish these conditions, and almost universally inversion is the sequence of one of these. But may it not have other origin? The agency of hydrometra and hematometra has been admitted by high authority, but no case has been recorded. Hydatids may also give rise to the conditions necessary to the occurrence of inversion.

The question proposed does not refer to any of these causes. Given a healthy condition of the uterus, and a negative answer may be returned at once. But may not the organ undergo such pathological changes as to permit inversion, or may not this occur independent of the conditions generally stated to be essential? This was first affirmed by Puzos in 1774, and from this point the author of the paper followed the discussion without reference to cases, and closed by saying that there seems to be fair argument in favor of the proposition that uterine inversion may occur independently of pregnancy or polypus, and some cases seem to prove it.

Does inversion of the uterus always begin at the fundus?

The almost universal view is that it begins at the fundus, and from that point extends downward. But may it not begin in a reverse order? The doctrine that it may has not been generally accepted. Most have denied its possibility. Thomas claims that it has not been proven. Taylor advocates the doctrine. The doctrine finds strong evidence in its favor from analogy in prolapse of the rectum. Preparatory to it, however, the walls of the organ have undergone a pathological change, and in this condition the possibility of inversion must be admitted. Taylor gives three cases: one from Lawrence, another from Ingleby, and the third his own.

Dr. Reeve's conclusion was that there seems to be sufficient evidence to establish the proposition that inversion can begin at the cervix.

3. *Does puerperal inversion of the uterus ever occur except at or immediately after delivery?*

The question is an important one, and upon his answer rests the decision, in many cases, as to the responsibility of the practitioner. No practitioner is excusable for not observing the inversion in long-continued cases, and the inquiry is not with regard to cases in which simple discovery of the inversion has been delayed. The author of the paper then gave a *résumé* of several reported cases, and concluded with the statement that the testimony rendered argument in support of the proposition unnecessary.

4. *May inversion of the uterus take place without sufficient symptoms to attract attention or indicate that anything has gone wrong?*

As a general rule, the symptoms are pronounced. But there are cases in which the general rule does not hold good. Two cases were cited which sustained the proposition.

THE SURGICAL TREATMENT OF THE MALIGNANT DISEASES OF THE UTERUS.

By W. H. BYFORD, M.D., Prof. Gynecology, Rush Med. Coll., Chicago.

From the *Jour. Amer. Med. Ass'n.*, Nov. 8, 1884.—The malignant diseases that more frequently attack the uterus, are: (1) epithelioma; (2) medullary carcinoma; and (3) sarcoma. They occur, according to my observation, in the order of frequency here mentioned. Probably not less frequently than the sarcoma is found the epithelial or corroding ulcer. After considering, at some length, the mode of development, the manner in which they destroy tissues, and surgery as an important palliative measure, Dr. Byford gives the following summary: The more common forms of malignant diseases of the uterus are: (a) Epithelial or superficial cancer commencing on the free surface of the mucous membrane. (b) Interstitial (medullary) cancer commencing in the fibrous structure; the deposit being within the lymph spaces. (c) The co-existence of these two varieties. (d) Sarcoma in which the cells are mingled with the fibres of the connective tissue.

2. The superficial cancer can often be removed and consequently cured. (a) By ablation of the cervix and as much of the body as is necessary. (b) When affecting the mucous membrane of the whole cavity, by thoroughly and repeatedly curetting all the morbid deposit away and cauterizing with acid, nitrate of mercury, bromine, or chloride of zinc.

3. The interstitial variety is incurable by any method of operation or by any means.

4. Frequent and thorough removal of the necrosis, down to the living tissue by the curette is the most efficacious of palliative measures in the latter variety.

SUB-MUCOUS AND INTERSTITIAL FIBRO-CYSTIC TUMOR OF THE UTERUS WITHOUT HEMORRHAGE.

Dr. B. F. BAER, proceedings of the *Philadelphia Obs. Soc.*, Oct. 2, 1884, presented a specimen removed from a patient, 36 years of age, the mother of two children, the youngest being 12 years old. The case was very unusual for the reason that although the uterine cavity was distended by a large sub-mucous tumor which was becoming polypoid, not the slightest hemorrhage resulted. He did not remember to have met with a similar case. He had, however, met with cases of small polypi where there was no hemorrhage, two indeed were discovered after the menopause had been fully established.

INSANITY OF MENSTRUATION.

Dr. RÉGIS (*Journal de Médecine de Bordeaux*), says that the mental state of females is, as a rule, more or less affected during menstruation. Bertheer

was of opinion that psychoses of menstrual origin were in many cases closely allied to the transitory insanities; they as a rule were short attacks of mania or melancholia. When, however, the affection was due to interference with the proper performance of menstruation, then the affection lasted longer. As a rule acute mania is the most common type presented; but an acute hallucinatory psychoses is far from infrequent. Nymphomania, kleptomania, homicidal impulses, incendiary impulses, dipsomania and suicidal impulses are often the insanity of menstruation properly so-called. In the great majority of cases, the appearance of the menstrual flow is an evidence and consequence of intellectual improvement. In a few cases it is the cause.—*Alsenist and Neurologist*.

THERAPEUTICS OF PRURITIS.

From the *Amer. Med. Jour.*, Oct., 1884.—Auerbach, of Berlin, uses "Balsam of Peru, rubbing it into the parts affected, giving great relief, and in a few days affecting a cure.—*Klinische Wochenschrift*.

Dr. H. K. Steele recommends the following as "almost a specific" in pruritis vulvæ and pruritus ani: R, Quiniæ sulphatis, 1 drachm; adipis, q.s. Ut fiat unguentum. Apply freely p. r. n.—*Cin. Lancet and Clinic*.

Dr. L. D. Bulkely uses the following as a general antipruritic remedy: Chloral hydrat., camphoræ, of each one drachm; unguent. rosar., 1 ounce. Mix. Rub the chloral and camphor together, and to the resultant fluid add the unguent of roses, a little at a time, rubbing until thoroughly incorporated. Apply freely to the affected parts.—*Southern Medical Record*.

Take of bichloride of mercury, 1 part; alum, 20 parts; starch, 100 parts, water, 2,500 parts. Mix, and incorporate. Apply freely to the affected part.—*Louisville Med. News*.

M. Marius Rey uses a lotion of glycerole of cade made as follows: Oil of cade, 1 drachm; glycerole of starch, 4 ounces. Mix. In vulvar pruritus M. Rey also uses at the same time injections of laudanized water, and tonic hip baths.—*Journal de Therap.*

Lime water and glycerine, of each one ounce; oil of sweet almonds, 2 ounces. Mix. Use as liniment. It is valuable in pruritis of genitals, and in superficial burns and scalds.—*Druggists' Circular*.

In the pruritus of the vulva, so common in the pregnant woman, Dr. Gill recommends sulphate of alumina as acting like a charm.—*Lancet and Clinic*.

All acquainted with the incessant suffering which some women undergo from pruritus at the period of the menopause must be very desirous of being made acquainted with a prompt remedy for so distressing an affection. Whether it arises from the presence of prurigo, uticaria, eczema, herpes, or whether it exists without any eruption at all, it is alike difficult to allay, as the great number of remedies which have been proposed testifies. Of these veratria is by far the most efficacious. When the pruritus is localized at the groins, arm-pits, walls of the abdomen, or behind the ears, gentle friction night and morning with an ointment consisting of 30 parts of lard and $\frac{1}{2}$ part of veratria usually gives relief. When the pruritus is generalized, the internal administration of the veratria is preferable. Two centigrams should be made into 10 pills, with licorice powder, of which from two to six should be taken daily, either half an hour before or three hours after meals. Only one should be taken at a time, an additional one being given each successive day until the maximum of six is attained.—*Medical Times and Gazette*.

We may set it down as a general rule that pruritus due to most superficial skin diseases will be relieved by antiseptics. Bichloride of mercury, quinine, boracic acid, carbolic acid, salicylic acid, chloral hydrate, sulphate of copper or zinc, etc., are all valuable as antipruritics in such cases. Pruritus ani, caused by the presence of thread worms (*Ascarides*) in the rectum, will, of course, only be relieved by the removal of the excitant cause *secundum artem*.

The itching of the uticaria is frequently relieved by the application of bicarbonate of soda in tolerably strong solution. A few drops of balsam copaiba taken on a lump of sugar or in capsule have sometimes relieved this condition. The bicarbonate of soda is an almost certain remedy in poison-

ing by rhustoxicodendron—at least, it always relieves me, and I am peculiarly susceptible to the poison.

RAPID DILATATION OF THE FEMALE URETHRA FOR THE CURE OF CYSTITIS.

By A. R. DAVIDSON, M.D., Phys. to the Buffalo Hospital of the Sisters of Charity.

From the *Buffalo Med. and Surg. Jour.*, Oct., 1884.—The treatment of chronic cystitis by drugs, and its local treatment by injections, are almost always tedious, often unsatisfactory, and not rarely altogether unsuccessful. The treatment here adopted, viz., the rapid dilatation of the urethra, has been condemned by many excellent authorities, and as highly commended by others. It is by no means new, having been recommended and described by Marius Sanctus in the sixteenth century. Douglass and Bertrandini, in 1769, performed the operation gradually, by tents made from the roots of plants or by sponge covered by parchment, but these early operations were for the extraction of calculi and foreign bodies. Sir Astley Cooper devised a metallic expanding dilatator, but modern impetus to the employment of the operation was chiefly given by the late Prof. Simon, of Heidelberg. He recommended the dilatation of the female urethra for the following objects: (1) The diagnosis of diseases of the mucous membrane of the bladder, and of calculi and other foreign bodies. (2) The removal of calculi and foreign bodies. (3) For applying various remedies to the internal surface of the bladder and for treating fissures of the urethra. (4) For the diagnosis of the position and attachment of tumors in the vesico-vaginal septum, and for the removal of tumors, especially papillary growths, from the walls of the bladder. (5) For the discovery and removal of calculi from the vesical extremity of the ureters. (6) For the opening of hæmato metra, the evacuation of which, between the bladder and rectum, is impossible or dangerous, as, for example, in the case of congenital absence, either partial or complete, of the vagina. (7) For the treatment of vesico-intestinal fistula.

According to Dr. Simon, in adult females the urethra may be safely dilated by means of plugs, having a diameter not exceeding two centimeters. In two cases he carried the dilatation one centimeter further (about one and one-half inch) with the result of having incontinence of urine, though not permanent, in both cases.

The principal opponent to the operation, at the present time, is one whose opinion is entitled to the utmost respect from his vast gynecological experience. Dr. Emmet, of New York, reports that in eleven cases operated on by himself, two had permanent incontinence and that he had seen this misfortune to follow the operation in at least half a dozen cases in the hands of other surgeons. Moreover, he knew of no benefit from the proceeding in chronic cystitis. On the other hand, Noeggerath, Munde, Goodell, Cronyn of this city, and others, strongly advocate and frequently practice it. It has been suggested as an explanation of the ill results of the operation in Emmet's hands that his index finger has a considerable greater diameter than two centimeters.

The experience of many operators would seem to show that the operation is free from danger of subsequent permanent incontinence of urine, if the urethral tissues are fairly healthy, and the dilatations be not carried to an extent greater than is necessary for the introduction of an index finger of medium size. The ability to thus examine the entire internal surface of the bladder with the finger (by perineal section of the urethra, the male bladder may be almost as easily examined as the female) offers a valuable addition to the means ordinarily employed for the more difficult and otherwise intractable cases of urinary diseases which come before us.

DYSMENORRHOEA.

Dr. J. E. BURTON, in a paper read before the *British Med. Ass'n*, 1884, reaches the conclusion, based on six cases, that obstructive dysmenorrhœa, due to stenosis or spasmodic dysmenorrhœa of the kind under discussion,

does not in reality exist; membranous dysmenorrhœa is not included in these remarks.

CATHETERIZATION OF THE URETERS.

By WILLIAM M. POLK, M.D., Prof. of Obs. and Diseases of Women, Med. Dep. Univ. City of New York.

The operation was vaginal cystotomy in a case of paralysis of the bladder, published in the *N. Y. Med. Jour.*, Sept. 13, 1884:—As it is a matter of some importance to determine the condition of the pelvis of the kidneys, and as the urine in the bladder is so infected with the products of vesical inflammation as to furnish us with no satisfactory evidence upon this point, I will collect some directly from the ureters by catheterizing them, and at our next meeting, will give you the result of the inquiry.

But, before closing, permit me to say a few words upon catheterization of the ureter. You have seen me do it upon this patient, after making the opening into the bladder, using a No. 5 instrument. Can it be done without such an opening? Yes. Simon did it by forcing the finger through the urethra, passing the catheter alongside and guiding its point with the fingertip into the canal. The great objection to this procedure is that it usually results in permanent incontinence of urine—a very serious mishap.

Pawlick maintains that it can be done by following with the point of the catheter—the instrument being introduced through the urethra—certain lines on the anterior vaginal wall which indicate the course of the ureters as they enter the bladder. He states that these lines can be made evident in all cases by carrying out the following directions:

The bladder must be empty, the abdomen free, the woman to be put in the knee-chest posture, and the perineum raised so as to distend the vagina with air. The lines are then seen starting from about the points at which we know the ureteric orifices to be situated, and running upward and outward, the course of each corresponding to that of the ureter.

There is no doubt that in cases of relaxed and distended vaginæ these lines can be brought out, but in such as present contrary conditions you will as often fail to find them.

But, granting that they may be recognized in all cases, the great defect in the method is the difficulty attending the determination of the question as to the actual entrance into the ureter. The depth to which you may carry the instrument is but a poor guide. Many bladders are so elastic as to be carried before it, even so far as the synchondroses. Given a case in which catheterization of the ureter is demanded as a means of diagnosis—and every renal tumor requiring extirpation is such a case—Pawlick's method is too uncertain. Should the patient be a woman, open the base of the bladder, pass your catheter through the urethra, and, by means of your finger passed through the artificial opening, you can always insert the instrument into the canal. You collect urine first from one kidney, then from the other, and are in the only sure position to determine the state of the two organs. Should both be diseased, you spare your patient a fatal operation. Should one be sound, by operating you prolong life.

VAGINAL HYSTERECTOMY FOR CANCER.

Dr. PAUL F. MUNDÉ, of New York (*Trans. Amer. Gyn. Soc.*), 1884, says: With reference to the operation, there are two main questions:—(1) Can vaginal hysterectomy for uterine cancer be performed without so great a loss of life as to render it unjustifiable; and (2) Can we hope to secure by it complete immunity from a return of the disease, or at least so much relief from suffering for a few years as to compensate the patient for the risks she incurs of losing her life by the operation?

To the first question, Dr. Mundé gave an unconditional affirmative answer. The second he would not answer in the affirmative with equal positiveness.

Dr. Mundé then defined the precise conditions in which alone the operation seems justifiable:—(1) Limitation of the cancerous degeneration to the

uterus and absolute freedom from disease of the parametrium; (2) Cancer of the cervix extending up the cervical canal to a height the precise limit of which is doubtful, and thereby rendering the possibility of complete removal of the disease by high supravaginal amputation and cautery extremely questionable; (3) Cancer or sarcoma of the body of the uterus; (4) Perfect mobility of the uterus. This is absolutely indispensable; (5) A capacious vagina permitting the ready exposure of the cervix and vaginal vault throughout; (6) A sufficiently vigorous condition of the general system to permit the patient to stand the shock of the operation.

When the above conditions are carefully considered, it will be apparent that the number of cases fit for complete vaginal hysterectomy is comparatively limited, and that if these rules are complied with, there is little danger that the number of victims from this "unjustifiable" if "brilliant" spectacular operation will be large.

THE TREATMENT OF MENORRHAGIA.

By H. B. RITTER, M.D., Adj. Prof. of Obs. and Gyn. in the Louisville Med. Coll.

From the *Medical Herald*, November, 1884:—Although menorrhagia is not a disease in itself it is a symptom so prominent and one we are called upon so frequently to treat that special attention must be given to it. We are advised to relieve symptoms by removing the diseased conditions upon which they depend. This is a very good rule for some symptoms, and for all at the proper time, but in the management of menorrhagia it is generally necessary to defer the attempt at removing the cause until after the hemorrhage is stopped. In some of these cases while we would be searching for the cause the patient would bleed to death. In these severe cases immediate action is demanded.

Palliative Treatment.—First of all the patient should be kept quiet and in the horizontal posture. By elevating the hips, which is done best by elevating the foot of the bed, you still further diminish this blood-pressure. Remove excitement of all kinds and give her complete rest.

If there is constipation, and the woman is not too weak from the loss of blood, it is well to give a saline cathartic. This places the organs in a more natural state and also attracts the blood to another part of the body. Ice-water, lemonade or other acidulated drinks may be given freely, but warm teas should be interdicted.

Cold cloths may also be applied to the abdomen and vulva for the purpose of producing contraction by reflex action. Injection of cold water into the vagina is some times practiced. Hot-water injections are also used; the hot water has the same effect upon the vessels as the cold water, both causing contraction of them, and of the two I would certainly give preference to the hot water.

If there is much nervous irritability the administration of bromide of potash or opium will be found useful. Certain remedies taken internally act as hemostatics, and some of these should be administered.

Gallic acid, sulphuric acid and acetate of lead I have tried, but I now regard them as almost valueless. Ergot is the old stand-by; it is used by all and its value seems to be fully appreciated. Ergot acts by producing contraction of the uterus and diminishing the calibre of the blood vessels. To get this contraction ergot must be given in full doses and frequently repeated. Some times ergot fails to do good, and then other measures will have to be resorted to.

Quinine acts similarly to ergot, and is therefore useful when the uterus is enlarged and relaxed. It also must be given in full doses—about five grains every fourth hour.

Indian hemp or cannabis indica is, in my estimation, one of the most valuable of all our hemostatic agents. It is the equal to ergot, and sometimes arrests the hemorrhage when the latter has failed, but I must also say that ergot has proved itself efficient when the cannabis indica has failed. It may be given in the form of tincture or solid extract. The tincture should be given

in doses of from twenty to thirty drops every second or third hour. It is best administered in syrup of acacia, as water precipitates the resin.

Strychnine and arsenic are also used in the treatment of menorrhagia, but they are most useful after the flow is stopped, and when there is an oozing of blood from the mucous surface of the uterus.

We have now taken up the treatment that suffices in all ordinary cases. Should it fail, or if the hemorrhage is so profuse that you consider it dangerous to wait for these hemostatics to act, we have a sure resource against the hemorrhage in the vaginal tampon. The tampon to be efficient must fill the whole vagina, extending from the uterus to the vulva and must put the whole vaginal wall on the stretch. The tampon can be used in all cases of menorrhagia excepting those due to cancer of the neck of the uterus, as the tampon then breaks up the tissues and in that way increases the hemorrhage. When due to cancer the best treatment is the local application of astringents, as alum or tannin, or the application of caustics, which arrest the hemorrhage by destroying the surface.

Now and then, after removing the tampon, the flow again makes its appearance, the plug in the vagina arresting it only so long as it is in position. Here more energetic measures will be required. Dilate the neck of the uterus with a sponge, laminaria or tupelo tent, and then with a probe or sound wrapped with cotton at the distal end apply to the interior of the uterus tincture of iodine, a saturated solution of carbolic acid or some strong astringent solution. Some times the neck of the uterus is sufficiently open to permit these applications without the use of tents. Thorough cauterization of the whole interior of the womb with fuming nitric acid is recommended by Dr. Atthill, but such severe measures are rarely called for. With these means menorrhagia can always be stopped, and as soon as the patient has recovered from the loss of blood the curative treatment can be commenced. Make a thorough examination to determine the diseased condition of which it is a symptom and then apply the treatment for that.

TAPPING AS A MEANS OF DIAGNOSIS.

Dr. C. D. PALMER, of Cincinnati, O. (*Trans. Amer. Gyn. Soc.*, 1884): Tapping as a diagnostic means had received a great deal of attention; but has not its value been greatly overestimated? It seems that tapping is attended with no inconsiderable danger in all multilocular ovarian cysts. Something, of course, depends upon the method of performing the operation, the precautions observed, etc. But what advantages does it possess? To place the life of a patient in danger for purposes of diagnosis simply, is a fearful responsibility to assume, and therefore tapping should be omitted if diagnosis can be established without it or some other risky procedure. He did not regard it as criminal to resort to it, nor did he accept the extreme view of Tait that it should be entirely discarded, because sometimes information derived thereby is very great, and such as cannot be obtained in any other way except by abdominal section. Dr. Palmer's conclusions concerning tapping were, that it is unnecessary and superfluous for purposes of diagnosis; that it is attended with such risks in its immediate and remote effects as to limit its employment to the minimum—namely, only when absolutely necessary; that it promises but little; that it is capable of doing much harm; that the conditions of the fluids is not characteristic; that neither chemically nor microscopically are they positively trustworthy; that the evidence obtained by tapping is simply presumptive, probably strongly corroborative in connection with certain symptoms and signs, and not positively unailing.

With regard to the exploratory incision, accurate and thorough diagnosis can be secured by the smallest opening, and dangers can be recognized before the entire field is surveyed.

PERFORATION OF THE UTERUS BY THE SOUND.

By W. P. CHUNN, M.D., Ass. to Chair of Gynecology, Univ. of Md.

From the *Maryland Med. Jour.*, Nov. 22, 1884:—Some of the following cases having proved productive of considerable discussion, and having as

yet never been published, I desire to put the same upon record in order that those having authority may decide concerning the accuracy of diagnosis as well as the causes of this infrequent accident. By infrequent, I do not mean to say that it does not comparatively often occur, but what I do mean to say is simply this: that very few cases are put upon record. Not long ago a physician of large experience in alluding to this subject, said: "I have many times passed the uterine sound seven and eight inches into the uterus without injury to the patient. *I do know where it goes, but it never seems to do any harm.*" These were cases where the body of the uterus was not enlarged, as ascertained by bimanual palpation. I think most of such cases would serve as illustrations to the heading of this paper. It has been said by no less an authority than Mr. Lawson Tait, of England, that the passage of the sound through the fundus of the uterus is very common, and is without danger. Such may or may not be the case. In one instance I happen to know of, the patient was made seriously ill, and very nearly lost her life. At all times it should be considered dangerous, and for this reason I trust it may not be considered amiss for me to warn others, more especially as I have myself seen how easily this mishap may occur. From what I have learned, I am inclined to think that this result occurs more frequently with those surgeons who rely too much upon the sound as a means of diagnosis, and that it is most frequent with those who use the sound habitually to correct displacements. The pathological condition of the fundus of the uterus, or of the Fallopian tubes even, which allows a sound to perforate these structures at times without any force being used, I do not as yet feel fully prepared to explain. In two cases, however, I know it was due to abscesses bursting through the uterus and keeping up a fistulous communication. Again, it seemed to me that the tissue of the uterus itself was in fault, and that it must have been made soft and friable by disease, or possibly from lack of proper food to the woman.

The first case of the kind in which I was enabled to make the diagnosis clear, occurred in consultation.

This woman was about twenty-five years of age, the mother of one child, four years old, and had never had a miscarriage. In November, 1883, she began to suffer from menorrhagia and metrorrhagia. During the month of April I saw the patient in consultation with two other gentlemen, and I proceeded to examine again. Bimanual palpation through lax abdominal walls showed the uterus to be in place, and its position and size were almost normal, the fundus being just on a level with the symphysis. The broad ligaments were elastic, and no enlargement could be felt. The patient was then turned on the left side, in the Sims' position, and the doctor in charge proceeded to introduce the sound, when, to my amazement, he pushed it in ten inches, the handle only preventing the instrument from slipping entirely out of sight. The woman was seized with a sharp pain, and instantly became sick at the stomach. I immediately had her turned on the back, and catching hold of the handle of the sound with my left hand, I proceeded to palpate the abdomen with my right, when at once I discovered the point of the instrument about an inch above the umbilicus, and a little to the right. This could be felt most distinctly through the thin abdominal walls. Both gentlemen present also perceived that it was as I have stated. Here evidently the sound had penetrated the fundus of the uterus, or had pierced the substance of one of the Fallopian tubes in its passage. A flow of blood followed as the instrument was withdrawn. The woman, at my suggestion, was put to bed, and a dose of opium administered to relieve the pain. Strange to say, this woman experienced no inconvenience from this rough usage, as I saw her again, in consultation, two days after with the same gentlemen.

At this second consultation the woman came walking into the room, looking so well that the gentleman in charge of the case took it for granted that the sound had not perforated the uterus at the last meeting, and once more put the patient on the table, and, with the aid of Sims' speculum, proceeded to pass the sound as had been done before. The instrument was again pushed in at least ten inches, and upon the woman being turned upon the back, the point of the sound was again felt in the old position, a little above

and to the right of the umbilicus. Much pain was complained of, and a flow of blood took place into the vagina. The patient, however, after a dose of opium and a few days' rest in bed seemed to be no worse for the rough treatment experienced. By some it was said that the sound had slipped into a Fallopian tube, or had possibly slipped out through the fimbriated extremity into the abdominal cavity. Others thought there might have been present a simple dilatation of the tube, or dilatation depending on piosalpinx or salpingitis. To such assumptions I have taken the liberty to differ, and for the following reasons: If piosalpinx had been present, from the lax nature of the abdominal walls, I should have discovered it by bimanual palpation. For the same reason salpingitis is also excluded. From the direction in which the sound was passed, I am certain it could not have followed the direction of the Fallopian tube and in that way have emerged into the abdominal cavity. And, moreover, in the great majority of cases the uterine extremity of the Fallopian tube is of such a small calibre that it is oftentimes almost impossible to pass a straw through them, let alone such an instrument as a Simpson's sound. For these reasons I therefore take it that the sound passed directly through the fundus of the uterus, and thence upward into the abdominal cavity.

Dr. Chunn reports six cases, and also gives the report of other cases, nine in all, published in the *Amer. Jour. Obs.*, May, 1884.

DISEASES OF CHILDREN.

SUMMER DISEASES OF CHILDREN, AND INFANT DIET.

By CHAS. WARRINGTON EARLE, M.D., Prof. of Diseases of Children, Woman's Med. Coll.; and of Obst., Coll. of Phys. and Surg., Chicago, Ill.

In a paper published in *The Archives of Pediatrics*, Sept. 15, 1884, Dr. Earle reaches the following conclusions;—(1) The most frequent infantile disease in the city during the summer months is entero-colitis. (2) Excluding causes of infant mortality, largely beyond our control, improper feeding is one of the chief causes of the great number of deaths among this class. (3) Mothers should nurse their children. In lieu of this, a wet-nurse should be procured. If this is impossible, a mixed diet is preferable; and, lastly, an artificial diet must be resorted to. (4) Artificial foods containing considerable casein are found to be a cause of indigestion and summer diseases. (5) In many cases cow's milk, diluted with water, does not seem to agree with the children. Barley-water, or rice-water, as the diluent, seems to make a more physiological food. (6) Condensed milk seems to agree with a considerable number of children, but, in many cases, a sufficient quantity is not used to nourish a child. Used in proper quantities, and diluted with rice or barley-water, it is without doubt one of the best artificial foods. (7) Cream, mutton-broth, and white of egg are valuable adjuncts to the dietary of infants. (8) Whatever the artificial food a child is having, the physician should examine frequently for evidences that it is a proper food as regards quality and quantity. The normal elevation of the fontanelles and increasing weight are among the conditions denoting a satisfactory and favorable nutrition.

DIPHTHERIA SPREAD BY ADULTS.

In a paper read before the Medical Society of the County of New York, (*N. Y. Med. Jour.*, Sept. 22, 1884) Dr. A. Jacobi, who, it will be generally conceded, is not excelled as an authority on diphtheria, declared that adults and others suffering from "simple sore throats," are largely responsible for the spread of deadly diphtheria. He insists on the propagation of the disease from the germ furnished by antecedent cases, and maintains that it is as senseless to look for its cause in moist walls and sewers (except, we suppose, in so far as the latter are capable of carrying the essential germ of the

disease), as it is to examine these for the cause of small-pox or scarlet fever. Preventive measures, he says, will be more effective when we look for the cause of every case of diphtheria in the nares or throats of living persons.

There is as much diphtheria out of bed as in bed; nearly as much out of doors as indoors. Many a mild case is walking the streets for weeks without caring or thinking that some of his victims have been wept over before he was quite well himself.

To condense Dr. Jacobi's paper, these would be the main points:

There is probably no spontaneous origin of diphtheria, any more than there is a spontaneous origin of cholera or scarlatina.

Diphtheria is contagious. Severe forms may beget severe or mild forms. Mild cases may beget mild or severe cases.

What has been called follicular tonsillitis is *mostly* diphtheria. It is seldom dangerous to the patient, as the tonsils have but very little lymph communication with the rest of the body. But it is contagious. This form is frequent in the adult, in whom it loses nothing, however, of its contagiousness.

Diphtheria in the adult proves dangerous to the community mostly because it does not restrain the patient from communicating the disease.

It is to last long: Firstly, because most cases occur on a surface covered with pavement epithelium (tonsils); secondly, because of the constant exposure and neglect on the part of the patient. Even without it, diphtheria may last weeks and more; with it, it is subject to sudden relapses. As long as it lasts it is contagious.

As diphtheria is but a mild affection in many adults, who disregard it and frequently do not care to mention its existence, pain in swallowing and moderate malaise being the only symptoms, the question of transmission by means of clothing, etc., on the part of third persons, is capable of becoming more difficult to answer than it ever was. Many a case which has been believed to be thus carried is probably one of direct contagion from a patient to a second person, from this second to a third—*Medical Age*, Oct. 10, 1884.

Dr. D. S. KELLOGG, of Plattsburg, N. Y. (*Boston Med. and Surg. Jour.*, Oct. 23, 1884) opposes Dr. Jacobi's views vigorously:—The article in your issue of the 9th inst. entitled, "Diphtheria Spread by Adults," ought not to pass by without a protest or at least some form of a denial. Dr. A. Jacobi's views on diphtheria, according to that article, are full of vagaries and contrary to clinical facts. The chief harm that can come from them is that some people *may* believe them. In the first place there is no reasonable doubt that diphtheria is contagious. That it is invariably so has not yet been proved, and probably never will be. The isolated, solitary cases often appearing in the country, in which no possible source of contagion can be traced after careful investigation, are pretty good evidence that diphtheria may, in some instances, have a spontaneous origin.

In the second place, "what has been called follicular tonsillitis is" *not* "mostly diphtheria." There are cases of sore throat so mild and so peculiar that it is difficult to decide positively what their true character is. But these cases are so few that they do not constitute even a *respectable* minority.

In the third place it is very far from the truth that "*There is as much diphtheria out of bed as in bed; nearly as much out of doors as in doors.*" Of course it is probable that some of Dr. Jacobi's "mild cases of diphtheria" which "have continued six or even nine months" may be out of doors before complete recovery. No one denies that all reasonable precautions should be taken to prevent the spreading of this terrible disease. The "nares and throats of all attendants and help" should be examined. So also "the sick nurses, the cooks, teachers hair-dressers, and barbers, shop-keepers and restaurant keepers" should be looked after. But why stop here?

FUMIGATIONS OF GAS-COAL-TAR IN DIPHTHERIA AND CROUP.

Dr. GEO. W. MAJOR, of McGill Univ., Montreal, in a paper published in the *Canada Med. and Surg. Jour.*, Nov., 1884, reports six cases, and says that while he does not wish to speak of it decisively as a specific, but to

state that it has yielded him good results. At a reasonable time after commencing the fumigations by means of a combination composed of gas-coal tar 200 grammes and turpentine 60 grammes ignited, the membrane not only ceased spreading in each instance, but also in 24 hours showed signs of disintegration, for it literally crumbles and does not exfoliate, as under other conditions. As to prophylaxis, in no instance did any contagion occur. At each sitting from 4 to 8 ounces of the fluid combination should be used, and from 7 to 12 minutes will be required for its combustion. Enclose the vessel containing the burning fluid in a larger one, to avoid danger of fire. Shut the apartment door on a sheet, and the room will remain filled with the fumes for four hours at least. The grimy appearance of the patient and his surroundings has been urged against the method of treatment, but this must be insignificant, if further experience demonstrates its efficacy.

PEDIATRIC APHORISMS.

1. Children are like the mob; they always complain with reason, although they cannot give the reason why they complain.

2. Always look at the lips of a pale and sickly child; if they are of a deep red color, beware of prescribing tonics internally.

3. As a general rule, a sad child has an encephalic lesion; a furious child, an abdominal one; a soporific child has both, though indistinctly defined.

4. An attendance on children produces in the mind of an observant physician the conviction that the half, at least, of adult transgressors are so through morbid abdominal influences.

5. A sunny living room, a clean skin, and an ounce of castor oil in the cupboard, these are the three great points of infantile hygiene.

6. To dispute the clinical value of tracheotomy in croup is a waste of time to no good purpose. Croup or no croup, if there be a positive obstruction to respiration in the larynx, it is but according to reason to open a way for sublaryngeal respiration. In the days of more knowledge and less nonsense, tracheotomy will be ranked among minor surgical operations.

7. Dentition is a true multiple pregnancy in which the uterus and its fetuses become petrified in proportion as they grow. It is not the direct or the eruptive pressure, but the lateral pressure of all together, that is the most dangerous. It is from this that so many cerebral symptoms appear which can in no way be relieved by incision of the gums. The only recourse against the danger of this transverse pressure is to give the child more nourishment, in the hope that as the general condition is bettered the local condition will also improve.

8. If the incisors of the first dentition are serrated it is bad, but if those of the second formation are the same, it is worse. It foretells a number of lesions are arising from deficiency of mineral salts in the tissues. There is one only exception, and it is an important one. When the serrated incisors are seen in strong children in whom the fontanelles have closed early, it is a sign of robust constitution. Instead of a number of small and sharp dentitions, there are a few large blunt ones.

9. To regard the eruption of the teeth as the sole factors in the general process known as the first dentition, is to perpetrate a sort of a medical synecdoche. Children get their first teeth because they are at the same time getting a second stomach and second intestines.

10. The body of a child possesses such a degree of "acoustic transparency" that in cases of necessity or convenience auscultation may be practiced with the hand, converting it into a telephone which will reveal as much to the physician as even his ear could do.

11. In practice it is well to distinguish with precision a case in which disease is due to lumbricoids from one in which lumbricoids are due to disease. For in the former case anthelmintics are of service, but in the latter they do harm.

12. Since, until a child is able to speak clearly, his relations with the physician are purely objective, it is very necessary that we should study as

carefully as do the veterinarians the exact correspondence between lesions and the expression of the patient.

13. If you wish to cure rapidly and well joint-disease in infants, you must treat them as you would a conflagration—douches, douches, and more douches, until you have succeeded in extinguishing them.

14. The entire system of the moral relation between children and adults should be changed. To speak to them incorrectly merely because they cannot pronounce well; to excite their fears and arouse their weird imaginations simply because they are easily frightened and impressionable; to stimulate their vanity because they are naturally inclined to be vain, these and other similar actions are not only wrong, but absurd.

15. There is finally a danger to the women of contracting a vice as yet unregistered in the annals of concupiscence—mastomania, or the sensuality of nursing. When this physiological act degenerates into vice, nursing becomes so frequent as to be nearly continuous, and the result is ruin to both mother and child. Finally, the physician must here, as always, be at once wise, discreet, of good judgment, and firm.—*Prof. Letamendi, Obs. Gazette.*

VACCINATION AND SYPHILITIC INFECTION.

The *Boston Med. and Surg. Jour.*, Aug. 21, 1884, contains an article on this subject in which it gives the conclusions of a report made by Drs. Bristowe, Humphrey, and Ballard, and Mr. Jonathan Hutchinson of England. The second conclusion reads:—"It is conclusively proved by his experiments (Dr. Cory of the National Vaccine Establishment in England), that it is possible for syphilis to be communicated in vaccination from a vaccine vesicle on a syphilitic person, notwithstanding that the operation be performed with the utmost care to avoid the admixture of blood."

Perhaps the point of greatest interest in connection with these experiments has reference to their relation to the practice of vaccination as carried out in England. As to this Dr. Buchanan points out that, quite apart from the question of the transmission of syphilis by vaccination, it has been the practice of English vaccinators to avoid using any syphilitic children as vaccinifers, and the long-continued absence of any authenticated case of syphilization as the result of vaccination in this country led many to doubt whether such a result was ever possible. So far as public vaccinators are concerned they are bound by the instruction, "Take lymph only from subjects who are in good health, . . . and always carefully examine the subject as to any existing skin disease, and especially as to any signs of hereditary syphilis;" and Dr. Buchanan comes to the conclusion that the observance of this rule offers all the safeguard needed, and that syphilis can only be imparted by a vaccinator in such a manner as no medical practitioner is likely by any accident or carelessness to imitate.

VACCINATION.

By JOHN CROWELL, M.D., of Haverhill, Mass.

In the Annual Discourse before the *Mass. Med. Soc.*, published in the *Boston Med. and Surg. Jour.*, Dr. Crowell says:—"The public mind is somewhat divided as to the efficacy of vaccination as a preventive or modifier of small-pox, and also as to the danger attending the operation in transmitting certain loathsome diseases, more to be dreaded than the pest against which the prophylactic treatment is directed.

We frankly admit that the process of vaccination has been subjected to abuse, and that grave evils have resulted from the carelessness of the operator; for vaccination, like every other operation on the human body, demands care and skill in its performance. The evils of pyæmia and syphilis, which have ensued in certain cases, have been due either to the use of a foul lancet, or of lymph, which, from remaining too long in the vesicle, had begun to decay, or from employing lymph mixed with the blood of a deceased subject. The evils of vaccination, then, can be easily avoided, and the remedies are very simple,—a clean lancet, and pure lymph unmixed

with blood or any other secretion. And since such ample facilities are afforded to procure virus from the cow, there need be no fear on the ground of vaccino-syphilitic inoculation.

And yet compulsory vaccination meets with stout opposition at home and abroad. During the last session of the British Parliament the whole matter of compulsory vaccination came before the House of Commons by a resolution introduced by Mr. P. A. Taylor, member for Leicester, as follows: "That in the opinion of this house it is inexpedient and unjust to enforce vaccination, under penalties, upon those who regard it as unadvisable and dangerous." This resolution was supported by a speech of great vehemence, in which the whole system was denounced, not only as dangerous, but utterly useless, and, without taking the trouble to produce facts, Mr. Taylor dogmatically asserted that as "a factor in national mortality small pox is nowhere at all."

It was for Sir Lyon Playfair to reply to these assertions, which he did by a masterly array of facts, too convincing to admit of controversy, and which are worthy of reproduction. A military surgeon testified before the committee of 1871 that of over one hundred and fifty thousand soldiers vaccinated not one instance was on record of the transmission of disease by the operation. And of the 17,000,000 children vaccinated within the last thirty years, Sir Lyon challenged any one to produce four authentic cases that had been poisoned by a syphilitic taint.

And in further elucidation of his position he presented a concise array of facts showing the beneficial results of vaccination. These facts are so succinct that they are of practical value in meeting popular errors upon this vital topic.

In forty years after the introduction of vaccination into England the death-rate from small-pox had fallen from 3000 per million to 600 per million, and after gratuitous vaccination had been ordered in 1841 the average mortality was brought down in thirteen years to 305 per million.

Again, when vaccination was made compulsory, in 1871, the ratio of fatality was reduced to 228 per million; while in Scotland, in 1882, the rate was only six per million. Remarkable results are also observed in the late Franco-Prussian war. The year before the war 40,000 French soldiers and 216,426 Prussian soldiers were re-vaccinated. There was not, however, time to re-vaccinate a large number of recruits who entered the French army from Brittany, where small-pox was prevalent. And the physician-general of the French army, Dr. Leon Colin, records, "That the different armies, raised in haste and placed in the field without time for re-vaccination, were exposed both at their places of gathering and in their marches to the attack of the epidemic. The result was, that while 23,499 French soldiers died of small-pox, the mortality among the Germans did not exceed 263 deaths."

In London the deaths of the protected and unprotected are relatively 90 and 3350 per million, while in America the deaths of the unvaccinated are fifty per cent. in Boston, sixty-four per cent. in Philadelphia, and fifty-four per cent. in Montreal, and among the vaccinated the mortality is from fifteen to seventeen per cent.

At the conclusion of his argument, Dr. Playfair moved the following amendment to the resolution: "That in the opinion of this house, the practice of vaccination has greatly lessened the mortality from small-pox, and that laws relating to it, with such modifications as experience may suggest, are necessary for the prevention and mitigation of this fatal and mutilative disease."

And this resolution was sustained by the remarkable vote, three hundred and two, while the anti-vaccination party mustered only sixteen votes.

INCONTINENCE OF URINE IN CHILDREN.

Dr. SAMUEL S. ADAMS finds that in 1874 the pathology of this affection was understood as well as now. From birth the child instinctively voids its urine, and we take it for granted that the act is reflex. The rule is that about the eighteenth month the child is taught to exercise complete control

over the sphincter. Children are often punished for incontinence, but there must be a pathological condition to account for an act that makes nature an abhorrence to herself, and it is our duty to seek diligently for it and remove it. In many cases the act continues untreated until well-marked psychical changes take place, and the child, bright and cheerful by nature, becomes morose, restless, and nervous.

We generally find the disease divided into three varieties. In the first class the subjects suffer from a constant dribbling of urine day and night. Not frequent, and usually due to vesical calculus.

A second class comprises those whose incontinence is intermittent in character, and occurs in the day as well as at night. This is the form usually met with in the girl. The urine is retained for a short time during the day, when the desire to void comes, but before a convenient place is reached, the sphincter is overcome and the child is powerless to prevent the flow. The cause in these cases was found to be vulvitis or urethritis, as a result of the irritation from ascarides in the vagina.

The third class is the one that interests us most, because of its frequency in both sexes, its nocturnal character, its possible concealment for years, and the promptness with which it yields to treatment. The children urinate before retiring, and yet about midnight, during a profound sleep, the urine is passed again, or just before rising in the morning the contents of a full bladder are involuntarily set free. Patients of this class generally dream of urinating, and in boys it takes place during erection of the penis.

In some obscure cases of incontinence, the accident is attributable to causes that favor a perfectly physiological process in the adult. Late suppers, profound sleep, amorous dreams, and many such causes produce a nocturnal pollution in the adult, and the same causes excite irritation in the child; but instead of the seminal discharge, the physiological process of which is not yet established, the bladder is emptied. In each instance the discharge is the result of a conservative process of nature to relieve the irritation. Frequently enuresis goes on undisturbed until the full establishment of the sexual functions, when it is superseded by nocturnal pollutions. Incontinence most frequently exists in children between eight and twelve years, but may occur at any time between two years and puberty.

Trousseau was the first to trace a relationship between incontinence and epilepsy, claiming that in rare instances one succeeded the other. In a few cases of occasional nocturnal incontinence, the cause may be an overloaded stomach or bowel, intestinal worms, hip-disease, adherent prepuce, or amorous dreams. In cases of phymosis, the nocturnal incontinence is due to reflex irritation. The irritant is often the smegma behind the corona, which keeps up a constant irritation. In other cases, owing to the contracted orifice of the prepuce, the bladder becomes tired from prolonged expulsive efforts, and relaxes before it is emptied. As a result there is frequent urination during the day, and at night the spinal centre responds to the irritant by involuntary micturition.

The doctor does not approve of the use of chloral with children. The bromides take foremost rank in the treatment of those cases in which an exalted nervous condition can alone account for the incontinence. They should be given in large doses at bed-time. Belladonna is the remedy *par excellence* in the treatment of those cases believed to be associated with a tonic spasm of the bladder. It should be given in large doses at bed-time, increased drop by drop, daily, until improvement results, or its physiological effects are obtained. If there is a relaxation of the sphincter vesicæ, or paresis of the muscles of the bladder, strychnia is indicated. When the prepuce cannot be retracted, circumcision should be performed; but sometimes, while the opening in the prepuce is large enough, it cannot be retracted owing to adhesions. In such cases, if these adhesions are broken up, favorable results will follow.—*Archives of Pediatrics*.

TREATMENT OF WHOOPING-COUGH.

Thus far, the treatment of whooping-cough has not been very satisfactory. Bromides, chloral, morphia, belladonna, asafetida, quinine, have all been

tried in vain. Careful treatment of the accompanying catarrh, keeping the secretions going, the application of an asafetida plaster to the chest, decided doses of quinine and an occasional dose of chloral at night to insure sleep, seemed to constitute the most successful procedure.

Recently, Dr. Moncorvo, in Rio de Janeiro, has written a monograph on whooping-cough. His observations, which are rather extensive, have led him to the following conclusions: (1) Whooping-cough, the nature of which, until recently, was the subject of the greatest dispute, seems, to belong to the zymotic diseases. (2) The disease seems to be due to the presence of micrococci, which develop themselves to an alarming degree in the mucous membrane of that part of the larynx situated below the glottis, and infiltrate the epithelial cells. (3) Resorcin, applied directly to the mucous membrane of the larynx, has not only diminished in a very short time the number of the attacks of coughing in cases in which it was employed, but it has also decidedly cut short the course of the malady. (*Allg. Med. Centr. Zeit.*, 31, 1884.)

The best method of applying resorcin in these cases is its administration by an atomizer. If this cannot be had, it should be blown in the usual manner into the larynx by the aid of a quill. The internal administration of resorcin is, however, utterly useless.—*Med. and Surg. Reporter*.

THE DOSE OF POTASSIUM IODIDE FOR CHILDREN.

In the *Archives of Medicine*, October, 1884, Dr. E. C. SEGUIN has a very valuable article on iodide of potassium, in which occurs the following:

"Influenced no doubt by the extraordinary susceptibility of little children to opiates, many practitioners give them altogether too small doses of many remedies. This is notoriously true of the bromides, and I am sure is also true of the iodide of potassium. For threatening conditions of cerebral disease, meningitis, syphilis, etc., if we decide to give KI we should administer it almost in adult doses. In cases of basal meningitis with neuro-retinitis, and in some other cases, I have given from 4. (60 grains) to 8. (120 grains) three times a day to patients between four and eight years old, not only with good results as regards the cerebral symptoms, but also without iodism of gastro-intestinal irritation."—*Med. and Surg. Reporter*, Nov. 15, 1884.

DIETETIC TREATMENT OF NUTRITIVE DISORDERS IN CHILDREN.

From the *Buffalo Med. and Surg. Jour.*, Dec., 1884:—Dr. BIDERT has treated a number of cases of infantile digestive disorders without drugs, by means of a strict regulation of the diet. The diseases treated were dyspepsia, dyspeptic diarrhoea, chronic catarrh, extreme atrophy (tabes mesenterica), ulcerative enteritis, cholera infantum, and one supposed case of epidemic dysentery. The children were most carefully watched, and the greatest care observed in carrying out the minute details of treatment. From the results obtained the author feels himself justified in recording the following deductions (*Centralblatt für Klinische Medizin*): 1. A surprisingly large number of gastro-intestinal disorders in infants stand in such close relation with the quality and insufficient quantity of food that the diseases, even in the most serious cases, may be cured solely by the administration of a suitable diet. 2. The quantity of food given is of the greatest moment. 3. The nourishment must often be given in greatly diluted form. 4. The proportion of albumen to fat plays an important role. The digestion of albumen is facilitated by mixing it with a much larger proportion of emulsified fat than is found in cows' milk—that contained in human milk being the proper amount. 5. It should not be forgotten that, at times, there is a diminished absorption of fat, in which case it should be greatly reduced in amount, or, in order not to interfere with the digestion of albumen, slightly reduced to a proportion midway between that of human milk and cows' milk.

GASTRIC DILATATION IN CHILDREN.

From the *Jour. Amer. Med. Ass'n*, Nov. 20, 1884:—Ectasis of the stomach appears to have received more than usual attention of late on the part of French clinicians. Whether the malady be more prevalent in Europe than here or not, it doubtless exists many times when our practitioners fail to detect it. This may be owing in part to the difficulty often attending its detection, and also in part to the mask the disease assumes of symptoms referable to the heart, skin and nervous system. Even when on the lookout for dilatation of the stomach in adults, few practitioners, we think, would expect to find it in young children. Yet Dr. J. Comby, in *Archives Générales de Médecine* for August and September last, presents some interesting features of the disease as studied in fifty cases which occurred in his dispensary practice. He found it associated with rachitis; not, however, as an effect, but as a cause, itself being the result of improper and excessive feeding. Although occurring in children for the most part, it may yet be found in infants at the breast as well as in those reared with a bottle. In such cases, distention of the stomach is produced by the ingestion of a too great bulk of liquid nourishment. In other instances, alimentation of an improper kind is instrumental in its causation. The symptoms are dyspepsia, convulsions, insomnia, urticaria, eczema, bronchitis, and manifold other functional disorders. These symptoms may occur alone or together. Dr. Comby regards the prognosis as serious, since the dilatation may persist until puberty, or even until mature years. As measures of prophylaxis he recommends that bottle-fed infants be put to the breast, and that all infants, whether nursing or not, be fed at regular intervals and restricted as to amount. Infants should not be weaned too early nor too quickly. If ectasis of the stomach already exists, the food should consist exclusively of milk in case of infants, while older children should be allowed solid food only. Irrigation of the stomach is sometimes advisable.

THE SUMMER DIARRHEA OF INFANTS.

By J. LEWIS SMITH, M.D., Clin. Prof. of Diseases of Children, Belle. Hosp. Med. Coll., N. Y.

From the *Archives of Pediatrics*.—*Preventive Measures*.—Efficient preventive measures consist in the removal of infants, so far as practicable, from the operation of the causes which produce the diarrhea. Weaning just before or in the hot weather should, if possible, be avoided.

It is also important that the infant receive its food in proper quantity and at proper intervals.

Infants nourished at the breast may be allowed to nurse every two hours in the daytime, whatever the age, after the second month; but less frequently at night, for frequent nursing promotes the secretion of milk, and the milk is of better quality than when it is long retained in the breast. If by the fifth or sixth month mothers or wet-nurses find, as is frequently the case, that they do not have sufficient milk, other food should be given in addition, perhaps after every second nursing, or every fourth hour.

Curative Treatment.—The indications for treatment are: 1st. To provide the best possible food. 2d. To procure pure air. 3d. To aid the digestive function of the infant. 4th. To employ such medicinal agents as can be safely given to check the diarrhea. The infant with this disease is thirsty, and is therefore prone to take more nutriment than it requires for its sustenance. If nursing, it craves the breast; or, if weaned, craves the bottle at short intervals to relieve the thirst. No more nutriment should be allowed than is required for nutrition, and the thirst may best be relieved by a little cold water, gum-water, or barley-water, to which a few drops of brandy or whisky have been added.

ADDENDA.

CHRONIC NASAL CATARRH.

Dr. M. M. BROWN, M.D., of Ithaca, N. Y. (*Med. Summary*) gives the following treatment for chronic nasal catarrh—where hard scabs are formed:

R. Acid carbolie, gtts. xv; potass. permang., grs. v; aqua., 3 ij; glycerine, q. s. ad., $\frac{3}{4}$ ij. M.

To be applied to the nostrils in the following manner with a camel's hair brush, nightly: Saturate a long camel's hair brush in a sufficient quantity of the fluid, push the brush well into the nostrils after having blown the passages clear of crusts, allow the brush to remain for five minutes in each nostril, or until the preparation can be tasted in the fauces. Repeat this until all signs of disease have disappeared. When there is much discharge of an offensive nature, mingled oftentimes with bloody matter dropping into the fauces after meals and on getting up from bed, I apply the following powder once a day to the fauces and nasal passages with an insufflator:

R. Potass permang., grs. x; talc, $\frac{3}{4}$ j; bismuth subnit., 3 j. hydrarg. chlor. corrosiv., grs. ij. M. Ft. in pulv.

Ten grains of this powder blown upon the diseased surface behind the velum and into the anterior nares every evening works like a charm. Prepare the powder carefully. Still another formula, when the fetor is intense:

R. Iodoform, calomel, bismuth subnit., aa 3 j; talc, $\frac{3}{4}$ ij. M. Ft. in pulv.

I prefer this powder to the first named in nearly all cases. For chronic sore throat I use the following solution:

R. Hydrarg. chlor. corrosiv., grs. ij; alcohol, 3 ij; aqua q. s. ad., $\frac{3}{4}$ ij. M.

Apply with camel's hair brush to the enlarged follicles two or three times a week. If smarting is intense mitigate it with glycerine or a little vaseline.

CANCER OF THE PANCREAS.

Dr. MIDDLETON GOLDSMITH, of Rutland, Vt., says (*Medical Record*, Nov. 29, 1884) that, in examining a suspected pyloric tumor, the fact that it cannot be felt in conditions which allow the stomach to get over it, and can be felt only when the stomach cannot get in front of it so as to apron it; or, in other words, if the suspected tumor can always be felt when the stomach is empty, but disappears whenever the stomach is distended, and if the tumor commonly is more obvious in the recumbent than in the erect posture, I feel quite confident we should be justified in making the diagnosis of pancreatic tumor even in the presence of some of the symptoms of stomach cancer, such as anoroxia, pain after eating, or occasional bloodless vomits. Another diagnostic point which seems to me as of considerable value is the character of the pain as well as the persistence. In the first place, the pain is more continuous than in cancer of the pylorus. In the second place, the pain radiates in more directions than in cancer of the pylorus. In the third place, the pain is more dismal, seemingly has no end, is a disheartening pain, does not become more endurable by having been endured, and has no leaven of hope in it.

THERAPEUTIC USE OF ALCOHOL.

Dr. AUSTIN FLINT, of New York (*N. Y. Med. Jour.*, Nov. 29, 1884) says:—The sum total of alcohol ingested is not eliminated from the body as alcohol; it supplies a material for the production of animal heat; it is, therefore, a food. It may be made a potential agent for either good or harm. Where lies the truth between the extremes as regards the proper place of this agent in therapeutics? I shall not undertake to answer this question. The oscillations in the past and the diversity in practice at the present time, show conclusively the need of further investigation.

I have endeavored to do something in the way of analytical study of carefully recorded clinical experience, with reference to phthisis and the continued fevers, and I feel warranted in affirming that, in a certain proportion of the cases of phthisis, alcohol antagonizes the progress of that disease, and that in the treatment of the continued fevers (typhus and typhoid) it is a means of saving lives which without it would be lost.

RACHITIC DEFORMITIES CORRECTED BY MANUAL FORCE.

Dr. V. P. GIBNEY, of New York (*N. Y. Med. Jour.*, Nov. 29, 1884) resorts to manual force to correct the rachitic deformities of the lower extremities, under the following circumstances:—(1) In patients whose parents are unable to buy apparatus, and too improvident to give any attention to its care. (2) When one has little time in which to effect a cure. (3) In cases where the bones will yield to such force, the other two conditions being present.

ABSCESS OF THE LIVER.

Dr. W. PAGE McINTOSH, Resident Physician at Bay View Asylum, Baltimore, Md., in a paper published in the *Maryland Med. Jour.*, Nov. 22, 1884, says:—Among the causes of abscess of the liver we find: (1) Contusion of the organ. In sixty-two cases, Budd found two due to this cause. Moorehead had four out of three hundred and eighteen cases; (2) Pyæmic inflammation of liver. This question has been fully discussed by the authorities; (3) Operations about the anus and injuries to vena porta are recognized causes, as is inflammation of veins of the systemic circulation. It is still, however a mooted question as to how emboli get into the vessels leading to the liver, from this source, having to traverse the capillary system of the lungs before reaching that of the liver.

Inflammation and ulceration in the gastro-intestinal canal does occur, as we know, and is a frequent cause of jaundice, but then it can hardly be regarded as a cause of abscess; else acute hepatitis would be infinitely more common than it is.

Dysentery being frequently present in abscess of liver, Kibes advanced the theory, afterward accepted by Budd, that the infective material was conveyed from the diseased gut to the liver by the portal vein. If this was the case, abscess should occur under the favorable conditions afforded by abdominal typhus and tubercular ulceration.

The hepatitis precedes the dysentery quite as often as is the reverse. Waring found, out of 300 cases of hepatic abscess proving fatal in West Indies, only 82, or, 27.3 per cent. were preceded by this trouble. When, as out of 203 cases noted. 51, or exactly one-fourth had ulcerations, abrasions or cicatrices in large gut.

Ulcerations of gall-ducts from impacted concretions or intestinal worms occasionally give rise to hepatic abscess. Many cases arise without appreciable cause. This is not strange, however, since we know quite as little about inflammation of the liver as we do about inflammation of the lung.

DIABETES MELLITUS.

Dr. AUSTIN FLINT, JR., in a paper published in the *N. Y. Med. Jour.*, Nov. 22, 1884, reports four selected typical cases of diabetes mellitis, three of

which were treated successfully by a strict anti-diabetic diet and the administration of Clemen's solution of the arsenite of bromine—three to five drops three times daily. [For anti-diabetic diet table, see EPILOGUE, vol. v, p. 803.]

YELLOW FEVER.

Dr. C. H. WILLIAMSON, Steamer *Acapulco*, in a paper published in the *Medical Record*, Nov. 8, 1884, says that yellow fever is unquestionably a disease of *marine origin* and that an essential element in its production is salt-water, with the organic vegetable and animal matter contained therein. This is catechised by the fact that this disease is never known to originate away from where salt-water does not permeate; that in all tropical regions where it chiefly prevails *coral reefs* abound, and animal marine life is most abundant.

EULACHON OIL.

Dr. E. L. SHURLEY, of Detroit, Mich. (*N. Y. Med. Jour.*, Nov. 29, 1884) speaks of eulachon, or "candle-fish" oil, as an article which bids fair to rival cod-liver oil. It is certainly not inferior to cod-liver oil in the general run of cases, and Dr. S. says that the clinical trial which he has given it shows its superiority in digestibility over cod-liver oil. Emulsions can be made of it in the same way as of cod-liver oil.

THE MORTALITY FROM PULMONARY CONSUMPTION.

Dr. JOHN L. DAVIS, of Cincinnati, O., in a paper published in the *Cincinnati Lancet and Clinic*, Nov. 22, 1884, says:—In conclusion, the facts which have been presented may be summarized as follows:

1. Pulmonary consumption is now, and as far as authentic medical record reaches, has always been the most prevalent and fatal of diseases.

2. The death-rate from this disease varies in different countries from 12 to 20 per cent. of deaths from all causes. This mortality has not changed materially in modern times. Deviations from the average seem to be due chiefly to inaccuracy of statistics, carelessness in diagnosis, and indefinite nomenclature. Pulmonary consumption is singularly free from the fluctuations depending on temporary and transient causes which affect other diseases.

3. No age is exempt from this disease.

Autopsies have revealed its existence in young children and infants, and many instances are recorded of its fatal occurrence in persons of extreme old age. Statistics, however, show that the disease is most fatal between the ages of twenty and forty. But the mortality at this period is not so excessive relatively, as has been supposed; after the age of forty the death-rate becomes less every year, though the disease continues to the extreme limits of human life.

4. The female sex is more susceptible than the male to pulmonary consumption. The ratio is, on an average, as 120 to 100.

5. Cities and crowded habitations in general show a larger mortality from this disease than prevails in less crowded localities.

6. Indoor occupations, and those vocations which necessitate a cramped position or sedentary habits, favor the occurrence of pulmonary consumption. No climate offers perfect immunity from the disease, though statistics show a lower death-rate in cold countries, as Canada, North Scotland, Scandinavia, etc., than in temperate or warmer regions. Further investigation with reference to the influence of climate upon pulmonary consumption is desirable.

KNOCK-KNEE AND BOW-LEG.

Dr. V. P. GIBNEY, of New York (*N. Y. Med. Jour.*, Nov. 29, 1884) gives the following answers to the question, What cases can safely be left to nature? (1) Children under two years of age presenting bow-legs or knock-

knees should not be subjected to operation or to mechanical treatment unless the deformity is very exaggerated. (2) Children under three years of age with only a moderate degree of deformity can be safely left to nature.

A MÆDIEVAL INSTRUMENT FOR PREVENTING COITUS.

To the late meeting of the American Gynecological Society, Dr. T. G. THOMAS showed a relic of the Middle Ages, in the shape of a contrivance for preventing women from indulging in intercourse. It had lately been given him by a friend, by whom it had been found in the bottom of one of a number of trunks that constituted, with the odds and ends which made up their contents, the remnants of an estate in Europe that he had been called upon to take charge of. The apparatus resembled the well-known ivory affair that was furtively exhibited to tourists at the Hôtel de Cluny. It consisted of a jointed iron belt, to encircle the hips, to which a rigid strip of iron was connected before and behind, somewhat after the manner of a T-bandage. This strip of iron was widened where it passed over the vulva, and at that place there was a slit-like fenestra with a serrated edge, the teeth being bent somewhat outward. At the situation of the anus there was another perforated expansion, circular in this instance, and that opening also was serrated. The whole was covered with ancient-looking velvet. The strip of iron which passed between the thighs was hinged to the pelvic girdle in front, but behind (perhaps to add to its discomfort) it was secured with a lock. The original lock was a remarkable antique, and bore the emblems of high nobility—perhaps royalty. On that account his friend had desired to keep possession of it, and therefore he (Dr. Thomas) had replaced it with a small modern padlock.—*N. Y. Med. Jour.*

PUERPERAL ECLAMPSIA.

Dr. B. F. DAWSON reported a case to the N. Y. Obs. Soc. (*N. Y. Med. Jour.*) in which the chief interest related to the absence of any of the usual marked symptoms of uræmia until near the close of life, notwithstanding there had been almost complete suppression of urine during nine days. She had remained perfectly rational, and said she felt well, with the exception of nausea, up to just before death. The case would have been less remarkable had there been any vicarious action on the part of the alimentary canal or the skin. There was but very little material vomited, and it was impossible to make the skin and rectum act.

EPISTAXIS—HOW TO CHECK IT.

Dr. H. PERDUE, of Barnesville, Ga., in the *Med. and Surg. Reporter*, Oct. 26, 1884, says:—It is a matter of no small consequence to know how to check promptly hemorrhage from the nose. It may be the result of a blow upon the nose, plethora of the system, or the want of coagulability of the blood. It occasionally occurs in fevers, when patients are already greatly depressed, and cannot stand much loss of blood. Then it is exceedingly important that the flow be speedily stopped.

I will merely give one method, which, if laid down in any work, I have not seen, but which I regard as most important, as it has never failed me. It is the plugging of the whole length of the nares with a piece of fat bacon or fat salt pork. I cut the meat long enough to plug the whole cavity from which the blood flows and smooth so that it can be pushed in with a twist. I tie a short string to it, so that it can be pulled out when desired. I sometimes put piece of adhesive strip across the end of the nose and meat to prevent it slipping out.

SCARLATINA CAUSED BY EXHUMATION THIRTY YEARS AFTER BURIAL.

At the recent meeting of the Health Exhibition in London, Sir Spencer Wells, the great ovariologist, mentioned a very important fact which has a

strong bearing on the probable source of epidemics and their annihilation by cremation, a method very strenuously espoused by Sir Spencer. Some persons who had died of scarlatina were buried in a country grave yard. Thirty years afterward, the graveyard was included in a neighboring garden, and the old graves dug up. Scarlatina forthwith broke out in the rectory and parish, and no other probable source having been discovered, it is difficult to avoid the inference that the graves of scarlatinal infection can retain their vitality a third of a century.—*Medical Age*, Sept. 10, 1884.

THE TREATMENT OF SPRAIN BY THE ELASTIC BANDAGE.

This method of treating sprains has recently been recommended by Marc Sec. It is the only method which fulfills the two indications: (1) To cause as rapid absorption as possible of the blood extravasated around the joint (a lesion which controls all the other symptoms, such as pain, swelling, difficulty of movement, etc.); and, (2) To favor cicatrization of the torn ligaments and ruptured parts by complete immobilization.

The antiphlogistics and blood-letting, formerly advised by Hunter and Guersant, only partially fulfill the former indication. There is the same objection to the movements which Ribe and Bonnet advise for the injured point. The refrigerants and cold-water baths advised by Baudens cause contraction of the tissues around the joint, and dispel the inflammation, but they are not favorable to the absorption of the infiltrated fluids. Even massage, though superior to the other remedies just mentioned, fulfills only the second indication. It is true that massage has the advantage of removing the extravasated materials from the region of the joint toward the more vascular portions of the limb, where they are more easily absorbed. But the elastic bandage has this advantage in a greater degree, since its action is continuous. Finally, and above all, it favors immobilization of the joint, which is impossible during massage, and without which it was almost impossible to get cicatrization of the torn structures and complete recovery of sprains of any intensity. The bandage should be applied to the skin itself, care being taken to fill up the flat and depressed places with wadding, so as to give a uniform surface around the joint for the bandage to act upon.—*Revue de Théra.*

REMOVAL OF FOREIGN BODIES FROM THE EYE.

Dr. C. R. AGNEW, of New York, recommends the following method:—Take a splinter of soft wood, pine or cedar, and whittle it into the shape of a probe, making it about the length of an ordinary dressing probe. Then take a small, loose flock of cotton, and, laying it upon your forefinger, place the pointed end of the stick in the centre of it. Then turn the flock of cotton over the end of the stick, winding it around so as to make it adhere firmly. If you will look at the end of such a probe with a two-inch lens you will see that it is quite rough, the fibres of cotton making a file-like extremity, in the midst of which are little interstices. As the material is soft, it will do no harm to the cornea when brushed over its surface. When ready to remove the foreign-body, have the patient rest his head against your chest, draw the upper lid up with the forefinger of your left hand, and press the lower lid down with the middle finger, and then delicately sweep the surface in which the foreign body is embedded with the end of the cotton probe. When the foreign body is lodged in the centre of the cornea, it is most important not to break up the external elastic lamina; for if you do, opacity may follow, and the slightest opacity in the centre of the cornea will cause a serious diminution in the sharpness of vision.—*Gaillard's Journal.*

MENSTRUATION RECURRING EVERY THREE MONTHS.

Dr. GEORGE H. BIXBY, of Boston, in the *Boston Med. and Surg. Jour.*, Sept. 25, 1884, reports a case of the above character, attended with severe dysmenorrhœa for twenty-seven years, complicated by hysteria and neurasthenia.

ACUTE AND CHRONIC URTICARIA.

Dr. J. B. JOHNSON, of Washington, D. C., in the *Med. and Surg. Reporter*, for Sept. 27, 1884, recommends the following: R. Bromide of ammonium, 3 ij; aquæ destil., 3 vi. M. Et. S. Tablespoonful every two hours.

ANTISEPTIC DRESSINGS OF MERCURIC BICHLORIDE.

Dr. CHARLES MEIGS WILSON, in the *Philadelphia Medical Times*, September 6, 1884.—In hospitals it is possible to have the solutions freshly prepared and frequently renewed, but in private practice this is not always feasible especially if the case be of long duration, and a long distance from a drug shop. A convenient solution for private use, and one which will keep indefinitely is the following: R. Hydrarg. bichlor., 3 ii; sodii chlorid., 3 i; aquæ distillat., f 3 iv. M. One fluid drachm of this added to a pint of water makes a solution of about one to a thousand.

ECZEMA OF THE HEAD.

M. LASSAR recommends as a specific in eczema of the head, in children and adults, inunctions repeated two or three times a day (after previously cleansing the head with soap and water) of a mixture of vaseline and two or three parts per cent. of salicylic acid and five parts per cent. of tincture of ben-zoin.—*Jour. de Med. de Paris*.—*Medical Herald*,

PRURITUS ANI.

This and the distressing itching of urticaria and mosquito bites can be much alleviated by local applications of menthol. It may be used by rubbing the menthol pencil lightly over the surface, or by dissolving a small amount in alcohol and bathing the part.—*Cincinnati Lancet and Clinic*.

COMEDONES.

Dr. A. VAN HARLINGEN, at the last meeting of the American Dermatological Association, recommended the following for the removal of comedones, as first suggested by Unna. R. Glycerine, 3 parts; vinegar, 2 parts; kaolin, 4 parts.

GONORRHOEA.

Another treatment is brought out by Dr. Kirchbaur (*Alleg. Med. Centr. Zeit.*, July 5), and was suggested on the presumed bacterial origin of the disease. It consists of an injection of a four per cent. solution of boracic acid. The purulent discharge was changed to a mucous one by the fourth day, a cure resulting by the end of the second week.—*Med. and Surg. Reporter*.

THE TREATMENT OF PHTHISIS WITH ARSENIC.

The *Med. and Surg. Reporter*, Nov. 29, 1884, says that, during the last two years a great number of observations have been published, in European journals concerning the treatment of pulmonary consumption with preparations of arsenic.

At a meeting of the Berlin Med. Society, about six months ago, the weight of evidence was against the use of arsenic in phthisis, yet some experienced physicians believed that they had seen favorable effects produced by it.

E. Leyden, the great Berlin authority, has attempted to solve the question. He placed twenty hospital patients, suffering from pulmonary phthisis, on the use of arsenic, and gives the results in the *Charité Ann.*, ix, 1884, p. 164. According to Leyden, arsenic has no value whatever in pulmonary phthisis; it benefits neither the general health, nor the nutrition, nor the physical condition of the lungs, and not even the expectoration is favorably influenced by the remedy.

QUARTERLY EPITOME

OF

AMERICAN PRACTICAL MEDICINE AND SURGERY.

WESLEY M. CARPENTER, M. D., Editor.

This number closes the fifth volume of the *QUARTERLY EPITOME*, and also a most prosperous year in the history of the journal.

For the generous patronage extended by the profession, and for the friendly greetings accorded to the new editor, we return our sincerest thanks.

It will continue to be the policy of the journal to present to its readers abstracts of the latest and the most practical papers found in the medical literature of this country, occasionally sprinkling them with those of more than usual interest which appear in the selections from foreign journals.

We hope not only to retain our present list of subscribers, but to increase it by adhering to the worthy guide, of studying all things and holding fast that which is good.

During the last quarter the medical profession has been set agog by Dr. Koller's observation concerning the local anæsthetic effect produced by the application of the muriate of cocaine, the active principle of the leaves of *Erythroxylon Coca*.

Attention was directed to its use first in ophthalmic surgery, especially for benumbing the scleral conjunctiva in the operation for strabismus and others of a similar character.

The marked local anæsthetic effect which the drug produces when applied to the eye, led to its use in operations involving the mucous membrane of other parts, and the naso-pharynx, the urethra, and also the cervix uteri have been introduced to the apparently new remedy, and a favorable impression has been made.

We say apparently new remedy, for it has been shown, since Koller's announcement, that as far back as 1868, a French physiologist demonstrated the power which cocaine has to produce this peculiar effect upon sensory nerves.

The revival of the knowledge however, concerning the physiological properties of the drug, has increased the permanence of the impression made by Koller's observation, and cocaine, just at present, promises to be an efficient aid in surgery.

A two-per-cent. watery solution was first employed, but a four-per-cent. solution has been found to be necessary in many cases, instilling in ophthalmic surgery, three or four drops into the eye to be operated upon, every three or four minutes for fifteen or twenty minutes immediately before the operation is begun.

The literature of the subject has already become extensive, as nearly every journal has already contained one or more articles with reference to this peculiar action of cocaine.

There is a manifest tendency, on the part of American medical writers, to ignore what has been done by their own countrymen. The maiden effort is usually dotted abundantly with quotations from the writings of "observers abroad," to show erudition, and to demonstrate that the compiler is hoary with the sacred dust of ancient lore. The veteran surveys the field from his exalted position, and recognised chiefly the prominent figures on the distant landscape, but is apparently unconscious of what has been done at the very base of his pinnacle.

It was, therefore, with conscious pride that we read the address of Dr. Samuel W. Gross, on "The Impress of Surgery upon Surgical Practice," in which were recorded the brilliant operations performed *first* by American surgeons.

Ephraim McDowell, of Danville, Ky., performed ovariectomy in 1809, and the woman lived until the year 1841.

Valentine Mott, in 1818 was "the first to execute the bold, brilliant, and difficult feat of taking up the innominate artery for aneurism of the subclavian."

Dr. A. W. Smyth, of New Orleans, in 1864, tied simultaneously the innominate, and the common carotid arteries for subclavian aneurism, and averted death from secondary hemorrhage by ligating the vertebral artery on the fifty-fourth day.

In 1833 Mott tied both carotids simultaneously, and in 1820, the first time, the common carotid for aneurism of the innominate artery.

In 1845, Dr. J. Kearney Rodgers, of New York, first practiced ligation of the left subclavian artery in the first portion of its course.

Dr. Wm. Gibson, of Baltimore, in 1812, first tied the common iliac artery for gun-shot wound of that vessel.

For aneurism of the external iliac, Mott, in 1827, was the first to tie the common iliac artery.

Dr. Robert Battey, of Rome, Ga., in 1872 successfully removed the ovaries for obstinate neuralgia.

Dr. Warren Stone, of New Orleans, in 1874, cured a traumatic aneurism of the second part of the subclavian artery, by digital compression of the third division as it passes over the first rib.

In 1860, Dr. E. B. Wolcott, of Milwaukee, Wis., performed extirpation of the kidney, the patient surviving the operation 15 days, and then dying of exhaustion from profuse suppuration.

Dr. R. A. Kinloch, of Charleston, S. C., in 1863, performed enterectomy for artificial anus, according to a method urged by the late Dr. Samuel D. Gross, in 1847—namely—to excise a portion of the bowel and suture the divided ends.

The prevention of hemorrhage during operations upon the extremities, by rendering them bloodless, is really an American procedure, and was practised by the elder Pancoast and elder Gross.

The employment of absorbable animal ligatures, which would not give rise to suppuration or interfere with the healing of wounds, is also of American origin. In 1814, at the suggestion of Dr. Physick, Dr. J. S. Dorsey successfully ligated a large artery in a horse with a buckskin ligature, and Dr. Joseph Hartshorne, soon afterward, at the Penn. Hospital, secured the vessels, after amputation of the thigh, with strips of parchment.

Concerning affections of the bones and joints, systematic manipulations in the reduction of dislocations, operations upon the nerves, the treatment of affections of the urinary and generative organs, especially the treatment of vesical calculus by rapid lithotrity, American skill, daring, and ingenuity have been displayed to the enduring credit of American surgery.

BOOK NOTICES.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Frank Hastings Hamilton, A.B., A.M., M.D., LL.D. Seventh American edition, revised and improved. Illustrated with 379 wood-cuts. Philadelphia: Henry C. Lea's Son & Co. 1884.

Until quite recently Dr. Hamilton's work was the only complete treatise on fractures and dislocations in the English language, and this deservedly honorable distinction it has held for a quarter of a century.

The seventh edition comes to us full of evidence of the singleness of purpose and the faithful earnestness of the author in the direction of increasing the scientific value of his book. There is, probably, no medical treatise, in any language, which has been more extensively and thoroughly read and studied than has "Hamilton on Fractures and Dislocations," and it is not too much to say that no work has more successfully than this stood the test of keenest criticism.

THE SCIENCE AND ART OF SURGERY. By John Eric Erichsen, F.R.S., LL.D., F.R.C.S. Eighth edition, revised and edited by Marcus Beck, M.S., and M.B.Lond., F.R.C.S. With 984 engravings on wood. Vol. 1. Philadelphia: Henry C. Lea's Son & Co. 1884.

The first edition of this work was published more than thirty years ago, and with its general merits the American medical profession have long since become familiar.

The present edition furnishes a revision rendered necessary by advancements made in certain departments, which at one time were within the domain of general surgery, but now are in the hands of specialists. To accomplish this thoroughly the author has wisely called to his aid gentlemen whose acquirements fit them especially for this part of the labor.

Mr. Erichsen dedicates these volumes to the "Surgical Profession of the United States of America," and, so far as its scope has permitted he has endeavored to do justice to the great achievements of American surgeons.

It is a source of national pride that such kindly feeling toward the medical profession of this country is rapidly increasing.

There are published in this country three works on general surgery, which can be consulted with assurance, and Erichsen's is one of them. To search

for items on which to make adverse criticisms would be unprofitable. That errors should occasionally be found in works of this magnitude, is perhaps inevitable. For example, we fear that Dr. Martin will feel wounded when he notices that he has been recorded as of New York and not of Boston. However, as one is but the suburbs of the other, he will doubtless pardon the distinguished author for the trifling oversight. It seems to us also, that the illustration of the use of the ophthalmoscope is somewhat fanciful, especially so in the light of a recent announcement that the "dude" must go.

AN AID TO MATERIA MEDICA. By Robert H. M. Dawbarn, M.D. New York: J. H. Vail & Co. 1884.

A systematic, compact, and comprehensive manual, which cannot fail to be of great assistance to both student and practitioner.

It is alphabetically arranged, and contains the synonyms, exact strength and composition, of all the drugs and preparations recognized by the present Pharmacopœia. It has a table of solubilities of chemicals in water and alcohol, and also a chapter containing a method of metric prescription-writing.

It is handsomely printed, and neatly bound with blank interleaved pages.

THE ELEMENTS OF PATHOLOGY. By Edward Rindfleisch, M.D., Prof. Path. Anat. Univ. Würzburg. Translated by Wm. H. Mercur, M.D., (Univ. of Penn.). Revised by James Tyson, M.D., Prof. Gen. Path. and Morbid Anat., Univ. Penn. Philadelphia: P. Blakiston, Son & Co. 1884. Price, \$2.00.

The original of this book is the work of a well-known pathologist. The translation has been revised by a competent gentleman. It is a good book for those who are somewhat advanced in the study of general

pathology, and its real value can be truly estimated only by such readers. It is well indoctrinated with the parasitic origin of disease. In some instances the author gives finely spun theories, but the spinning is interesting notwithstanding the gauze-like fabric produced. The endorsement by Dr. Tyson is a good guaranty of the excellence of the work, and it will prove to be, for those who have studied pathology, a valuable book of reference. It has a general and a special part. In the first the author discusses (1) the local outbreak of disease, (2) the anatomical extension of disease, and (3) the physiological extension of disease. The second part has five divisions with subdivisions.

THE PHYSICIAN'S HAND-BOOK FOR 1885. By William Elmer, M.D., and Albert D. Elmer, M.D. New York: W. A. Townsend, Publisher.

This is the twenty-eighth year of its publication, a strong recommendation of its worth. It is published in two forms; that is, with and without 185 pp. of recently and thoroughly revised introductory matter consisting of a summary of characteristic symptoms, pathology, complications, sequelæ, physical signs, etc., of diseases, with emergencies and poisons and their treatment, examination of the urine, lists of incompatibles and remedial agents, and extemporaneous prescriptions. Price of the large book, \$1.50; of the small, \$1.25.

VISIONS OF FANCY. A poetical work. By N. M. Baskett, M.D. St. Louis, Mo.: Commercial Print Co. 1884.

As melancholic as "a superannuated doctor turned grave-digger" says Victor Hugo. When doctors begin to write lines and call them poetry and stories and name them novels, or more esthetic perhaps, works of fancy and fiction, there is a strong suspicion that in no avocation can one labor without

encountering competition, and even Hugo's grave-digger has occasion to be alarmed.

THE PHYSICIAN'S VISITING LIST FOR 1885. Thirty-fourth year of its publication. Philadelphia: P. Blakiston, Son & Co.

This Visiting List is too well known to need special compliment. The present number fully maintains the established reputation of the series.

SURGICAL DELUSIONS AND FOLLIES. By John B. Roberts, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. 1884.

This little book contains a series of papers, which have been published in Medical Journals. They are the work of a bold, independent writer, and are interesting and trite.

MEDICAL RHYMES. Selected and compiled from a variety of sources, by Hugo Erichsen, M.D., Prof. of Neurology in the Quincy School of Med. Illustrated. J. H. Chambers & Co.: St. Louis, Chicago, and Atlanta. 1884.

In this collection can be found rest for the wearied worker who labors with instruments of precision, the practitioner who does the heavy drudgery, and the pseudo-medical man who prefers to read anything other than that which pertains to his professional improvement.

REPORT OF THE SECRETARY OF THE NAVY FOR THE YEAR 1883. Vol. II. Washington: Gov. Print. Office.

This is a very commendable report containing a large amount of valuable information, especially with reference to the medical typography and sanitary condition of the different stations. The volume has 618 closely printed pages, with maps and diagrams, and contains the reports of the Surgeon General, Medical Inspectors, and Surgeons.

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PUBLISHER'S DEPARTMENT.

NEWS AND MISCELLANY.

THE NEW ANÆSTHETIC.—MURIATE OF COCAINE.—In our last number we made a short note of this new and valuable anæsthetic. Since then it has been tried extensively in nearly all the cities of the new world, and the medical journals are filled with reports of its use, and the satisfactory nature of the results obtained. Its peculiar properties have been known to the profession for about a year, its use being to diminish sensibility in operations on the larynx. Dr. Koller first demonstrated its anæsthetic properties on the eye at the Ophthalmological Congress in Heidelberg, in September last. Since that time it has been tested by ophthalmologists in Europe and America with the most satisfactory results. Cocaine is an alkaloid obtained from the leaves of the erythroxylon coca. The drug is applied by instilling into (or brushing over) the part a four per cent. solution at short intervals until complete insensibility is produced, when the operation may at once be proceeded with.—*The Canada Lancet.*

EVERY-DAY PHYSIOLOGY.—The weight of a full-grown man should be 154 pounds, distributed as follows: Muscles and their appurtenances, 68 pounds; skeleton, 24 pounds; skin, 10½ pounds; fat, 28 pounds; brains, 3 pounds; thoracic viscera, 3½ pounds; abdominal viscera, 11 pounds; blood which would drain from body, 7 pounds. This man ought to consume per diem: Lean beefsteak, 5,000 grains; bread, 6,000 grains; milk, 7,000 grains; potatoes, 3,000 grains; butter, 600 grains; and water, 22,900 grains. His heart should beat 72 times a minute, and he should breathe 18 times a minute. In 24 hours he would vitiate 1,750 cubic feet of pure air to the extent of one per cent.; a man, therefore, of the weight mentioned ought to have 800 cubic feet of well-ventilated space. He would throw off by the skin 18 ounces of water, 300 grains of solid matter, and 400 grains of carbonic acid every 24 hours, and his total loss during the 24 hours would be 6 pounds of water, and a little

above 2 pounds of other matter.—*The Medical Record.*

MENSTRUATION IN ANIMALS.—Dr. S. A. Evans, of Conway, N.H., writes: "For several years past I have kept a non-pregnant cow, for the purpose of supplying my family with milk. Have kept a record of periods of heat. Find they recur once in twenty-one days. Are accompanied, first, by a discharge of gelatinous material from vulva, which, after some hours, becomes slightly tinged with blood. The color becomes gradually more pronounced, until within twenty-four hours it appears to be pure blood. Periods last about forty-eight hours. At these periods only can the cow become impregnated, which would seem to show that in her case ovulation and menstruation are simultaneous. These observations have extended through three winters, and in two different animals."—*The Medical Annals.*

SECURE LIFE INSURANCE.—Having a large deposit with the Insurance Department and a reserve fund of such proportions held in such a beneficial way, whereby the management of the Association is divested of all control over such funds, the Mutual Reserve Fund Life Association claims that it is to-day the safest, largest and most successful assessment life insurance association in the United States. It deserves public confidence, and it has it. Its reserve is increasing at the rate of \$600 per day—and this will in time come back to the 25,000 business and professional men who give the Association indorsement and through it provide for the future of those nearest and dearest to them. Members of this Association get just what they pay for, and pay for just what they get. Life insurance consists simply in collecting from the living to pay the representatives of the dead. The system is best which achieves this purpose in the simplest, most direct and inexpensive way. The system of the Mutual Reserve avoids the perils of large accumulations and affords absolute indemnity at actual cost, combining the ad-

vantages and avoiding the defects of what are known as the "level-premium" and "co-operative" systems. — *New York Times*, Nov. 2, 1884.

ABOUT MUSK.—Dr. D. J. Macgowan (*Chinese Custom Medical Reports*) records two cases illustrating the beneficial use of the Chinese musk-plaster with four grains added. The first was a case of severe lumbago, in a rheumatic patient, and of ten days standing, which had been treated in the usual way without relief. The application of the plaster was followed by sleep in two hours, the next morning the pain was barely perceptible, and in three days it wholly disappeared. The second was a sprained ankle with extensive tumefaction and intolerable pain; the application was made eleven hours after the injury. Ten hours later the patient fell asleep and in the morning the joint was painful only upon pressure. On the fifth day walking was partially renewed, and in a few days more the only trace of the injury was a stiffness of the joint. Dr. M. gives an account of the Chinese mode of obtaining musk from the musk-deer and civet-cat; and says this valuable substance after it leaves the hunter's hand is skilfully adulterated for wholesale dealers, who adulterate it for the trade, when it is found to possess about 10 per cent. of genuine musk. — *U. S. Medical Investigator*.

WM. R. WARNER & Co. have for years been regarded as among the most reliable manufacturers of pills in this country. We have recently received a bottle of their quinine pills, sugar-coated, with which we have had a satisfactory experience. Dr. Yale made a report to *New Remedies* last spring upon the pills of various manufacturers among them his experiments with pills of quinine made by Warner & Co., that shows a great perfection of result. This reliable house has recently issued "A Treatise on Dyspepsia and Malaria" which will be sent free to physicians on application. — *Obstetric Gazette*.

MELLIN'S FOOD FOR INFANTS AND INVALIDS.—This food has for years been favorably known to the profession, and been used with the best success in cases of infantile dyspepsia. It contains no starch, hence it is capable of more ready digestion than other

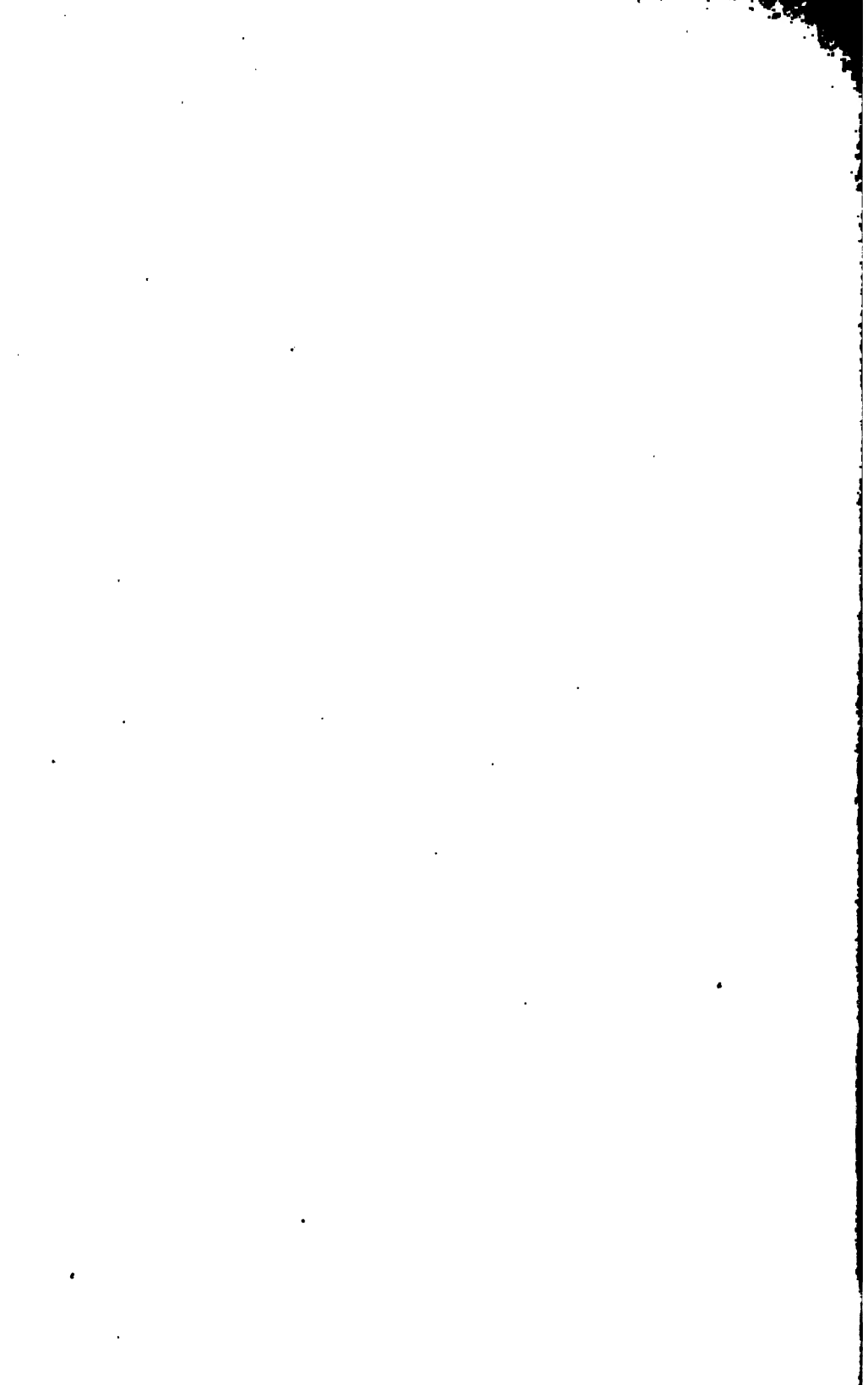
artificial compounds intended for the nourishment of infants, who, it is known, cannot digest starchy elements. The secret of its success is its complete solubility. The food forms, when treated with water, a fairly clear solution, very pleasant to the taste. — *Medical Times*.

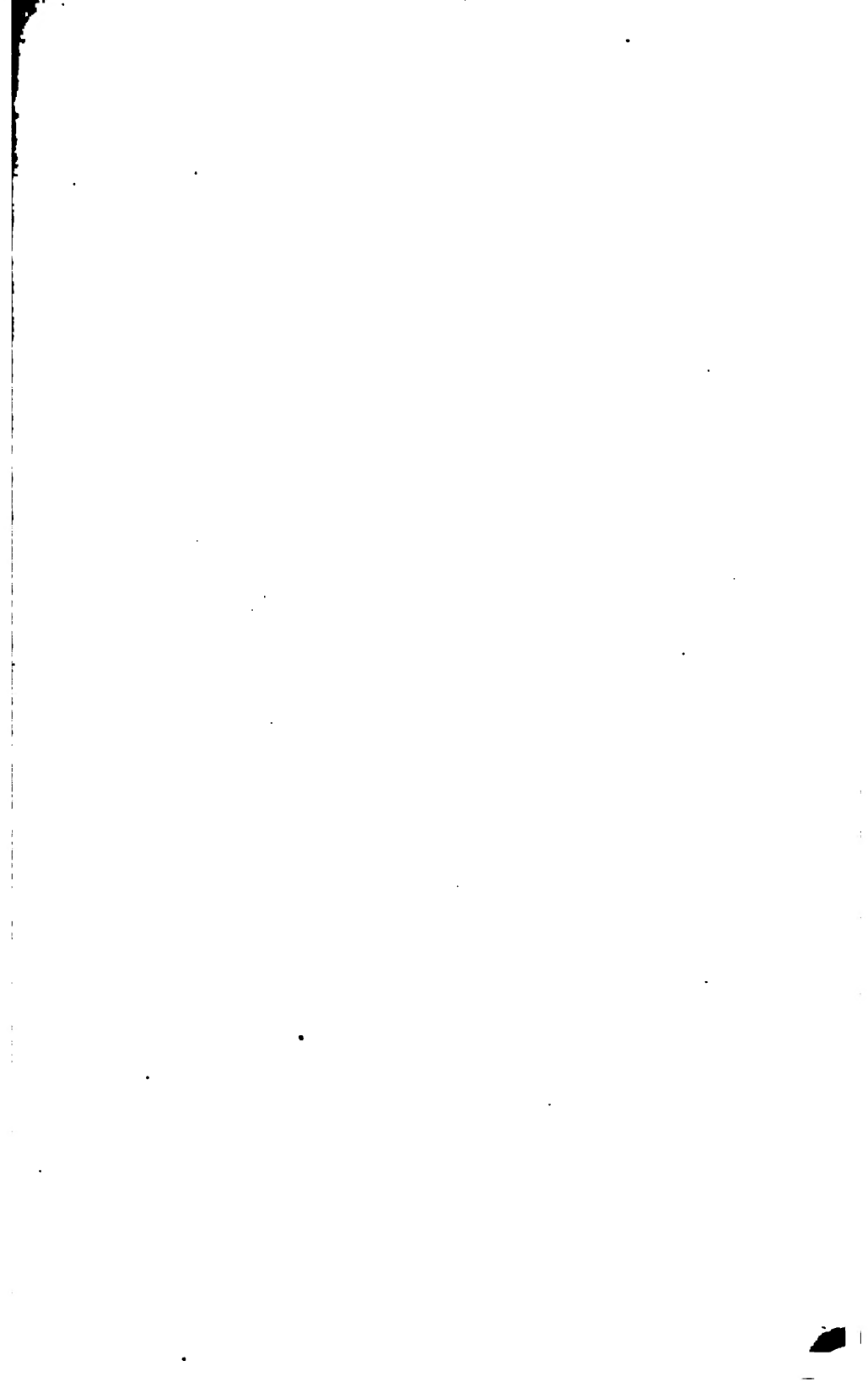
ELECTRICITY A REMEDIAL AGENT.—Electricity as a remedial agent is daily becoming more popular among the scientific physicians; though many are being imposed upon by the cheap inferior articles they purchase and seek to cure disease without any benefit to their patients and nothing but discouragement to the practitioner. If they had purchased from the start a good article, of which we think the Jerome Kidder Manufacturing Co.'s apparatuses take the lead, they would obtain better results. These machines are constructed for medicinal purposes, and were awarded the highest premium at the American Institute in fall of 1883, over three competitors. Considering the indorsements these machines have received from the medical profession, we do not hesitate to recommend them as superior to others. — *Weekly Drug News*.

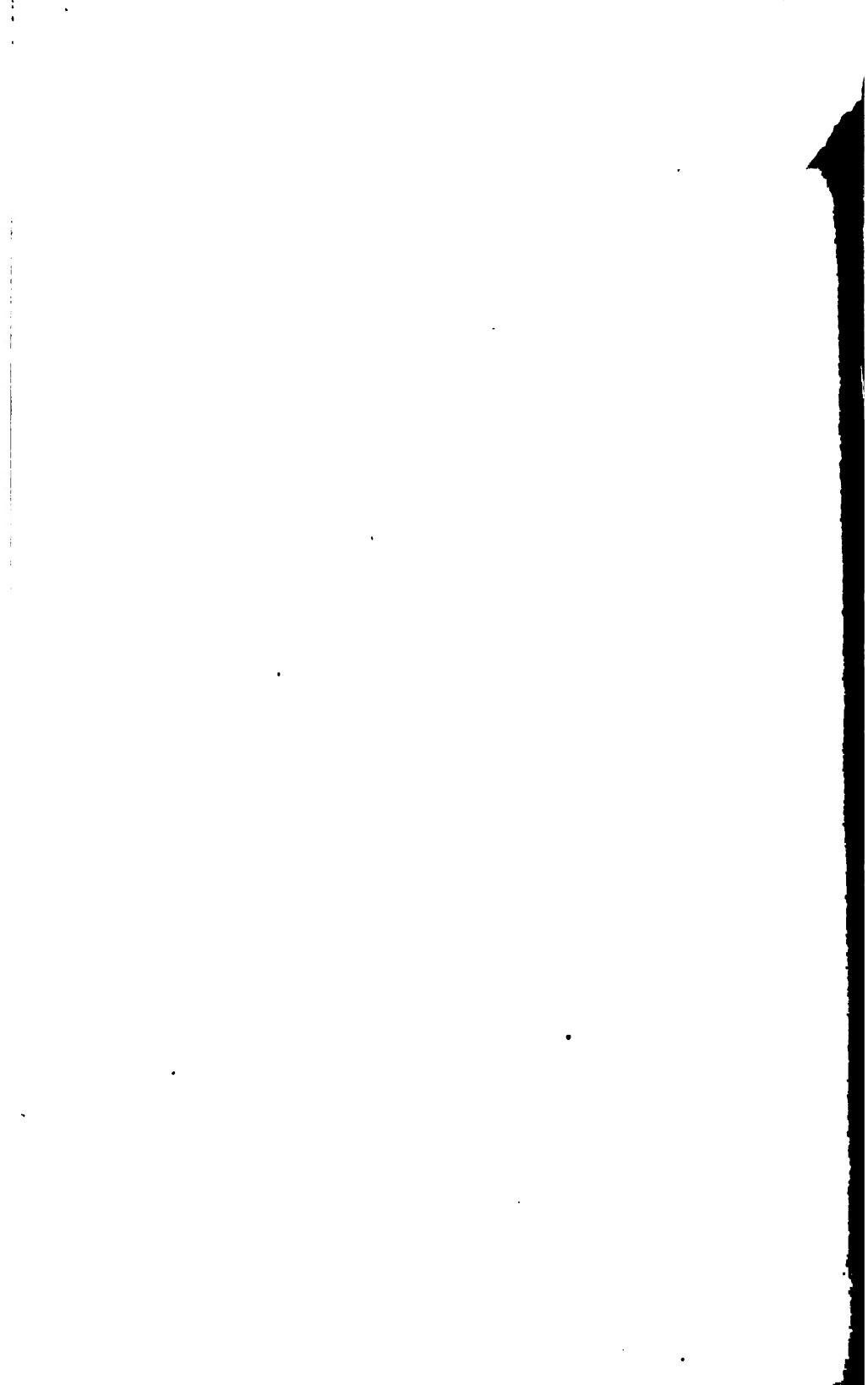
GRANULATED MALT EXTRACT.—D. W. Bliss, M.D., of Washington, D.C., says, in writing to Messrs. Wiley & Harris, Phila.:—I have to state that a careful observation of the therapeutic effects of the Granulated Malt Extract with several combinations has convinced me of their superior value, presenting, as they do, in a palatable and convenient form a large percentage of artificial ferment so essential in the treatment of maladies resulting from defective nutrition. I shall continue to use them with confidence. — *Med. Press*.

SHAKESPEARE'S PHYSICIAN.—In the churchyard at Fredericksburg, Va., is a tombstone on which may be deciphered these words:

"Here lies the body of
EDWARD HELDON,
Practitioner in Physics and Chirurgery
Born in Bedfordshire, England, in the
year of our Lord 1542. Was contemporary
with, and one of the pallbearers of
William Shakespeare, of the Avon.
After a brief illness his spirit
ascended in the year of our Lord 1618
—aged 76.







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